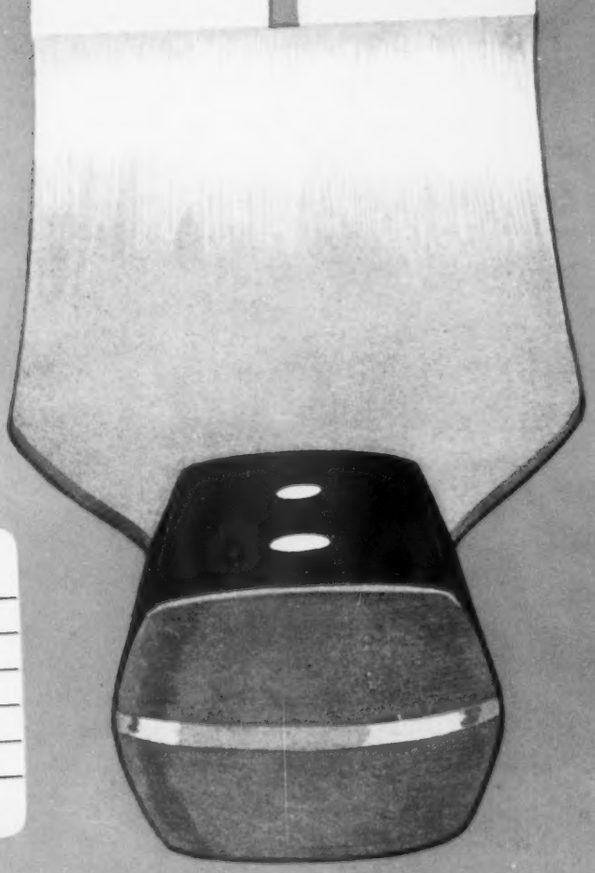
PRINTING EQUIPMENT *Engineer*

An Industry-wide Technical Publication



august 1953

PLEASE ROUTE THIS COPY TO

Manager	Pressroom Foreman
Production Mgr.	Bindery Foreman
Plant Supt.	Mailing Foreman
Platemaking Foreman	Maintenance Supt.
Composing Foreman	Purchasing Agt.

For filing, please return to

Added proof of STAR QUADDER SUPREMACY

Precision TRADE ★ MARK Parts

The Washington Post

Grill 20 ... pin Slaying

THE WASHINGTON (D.C.) POST installed a Star Quadder on an "approval basis". The trial resulted in an order for ten more.

This is the story everywhere. There must be a reason.

If you have one or more machines setting display or classified advertising without a quadder, let us demonstrate how much difference a Star Quadder added to your Linotype or Intertype machine can mean to your production.

Investigate particularly the new model with Hydraulic Actuation, the ultimate in quadder mechanisms. A new folder is now available.

The Star Quadder with Hydraulic Actuation will be exhibited at the S.N.P.A. in Atlanta.

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FOR CRAFTSMEN WHO CREATE FINE PRINTING

- It takes the best in machinery and the best of skilled craftsmen to produce consistently fine printing.
- That's why, in progressive newspaper and commercial printing plants the world over you'll find the Sta-Hi Premier Rotary Shaver is preferred equipment for handling all types of flat plate shaving – and doing it quickly, easily, economically.
- The Premier is a superbly engineered machine, ruggedly built to "take it" for years and years of trouble-free performance. It shaves electrotypes, stereotypes, zincs, wood or metal base with micrometer accuracy, to split-hair tolerances.
- And the resulting printed product it helps make possible is one of which any true printing craftsman can be mighty proud!

Sta-Hi Corporation

235 W. WASHINGTON BOULEVARD ● BOX 152, WHITTIER, CALIFORNIA

TURN OUT MORE VOLUME AT LOWER COST

with Morrison Composing Room Machines

MORRISON PLATE BEVELER

Puts a perfect, burr-free shoulder or bevel on all plates. Cutters work from edge of plate, not the top. You get a smooth die-straight cut every time.

MORRISON MODEL 3-A SAW TRIMMER

Today's more versatile saw. Clamps the work **behind gauge** for improved visibility, easier handling, and greater accuracy. A must for economy-minded composing rooms.

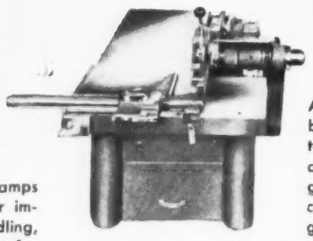
MORRISON MODEL 45 SAW TRIMMER

with PISTOL GRIP Saw Blade Adjustment

Here's the Saw Trimmer for medium-sized plants—or for supplementary equipment in larger plants. Has most of the famous 3-A features—plus the Pistol-Grip swift adjustment for elevating saw blade to trimming and plate cutting positions. Has popular Behind the Gauge Workholder. Available with Extension Gauge, miter and Lineup Gauge, Universal Saw Blades, Saw Grinding Attachment and many other Morrison "exclusives". Table size, 18" x 27".

MORRISON SLUG STRIPPER

"Proves itself to the men, within 24 hours." Makes it easy to strip the face of any slug or type character to the exact thickness needed for base heights.



MORRISON MODEL "45" SPECIAL SAW TRIMMER

A low-cost saw trimmer that embodies most of the features of the higher priced Model "45" and Model 3-A. "Behind the gauge" work clamp is standard, conventional "ahead of the gauge" clamps is optional equipment. Also available in a cabinet model.

MORRISON ROUTER AND TYPE HIGH PLANE

Saves time in making corrections and changes, saves make ready time by having all cuts precision height. Has exclusive Morrison micrometer height gauge. Allows routing to center of a 34" cut.

Other Morrison Equipment includes: Strip material cabinets, waste receptacles, Universal saw blades, router bits, and jig saw blades

Symbol of Operating Economy

THE MORRISON COMPANY MILWAUKEE WIS

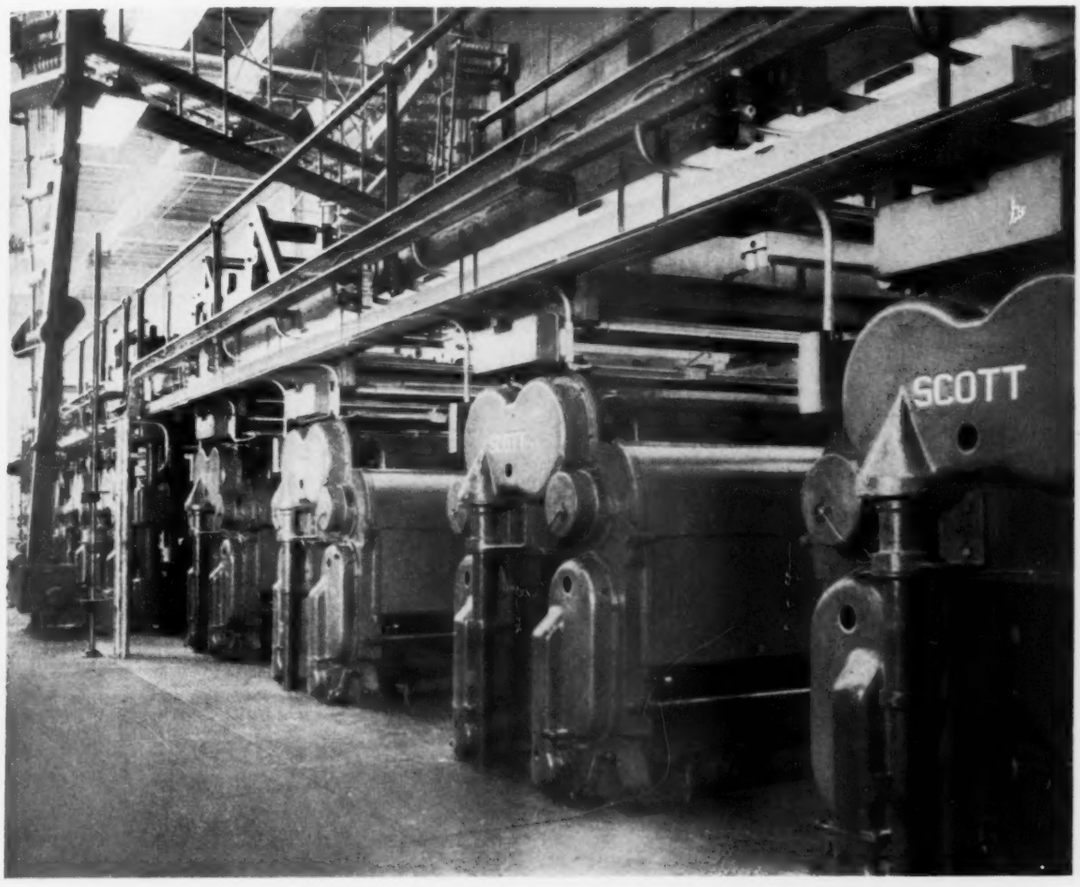
THE Morrison COMPANY

PRECISION MACHINES FOR THE GRAPHIC ARTS INDUSTRY

125 W. Melvina Street, Milwaukee 12, Wisconsin

FOR THE LATEST AND MOST MODERN

in Press Design—See SCOTT



A Typical SCOTT Installation

EFFICIENT and ECONOMICAL OPERATION
plus many added refinements—feature the
New SCOTT PRESS

Buy with Confidence . . . BUY SCOTT

WALTER SCOTT & CO., INC.

PLAINFIELD, N. J.

$4685.00

(F.O.B. CLEVELAND, OHIO)

...IS THE PRICE OF THIS ELECTRICALLY CONTROLLED FULLY AUTOMATIC 37″ C&P CUTTER

Your investment in *any* paper cutter—large or small—is a long-time investment that *must pay dividends.* You want accuracy, speed, easy operation and long-life for the cutter.

The Chandler & Price 37″ Automatic Cutter which is completely electrically controlled, is an achievement made possible by nearly three quarters of a century of experience in manufacturing machinery for the graphic arts industry.

Including many of the time-tested and time-proven features of other C&P cutters, the 37″ Automatic incorporates additional new, exclusive advantages available only in this cutter.

Before you buy any cutter, get the facts on the C&P 37″ Automatic. Write us or ask your C&P dealer for complete details. You'll receive a revelation in cutter design and cutter operation at a price that will make *this* cutter a profitable investment for you.

THE CHANDLER & PRICE COMPANY

6000 Carnegie Ave. • Cleveland 3, Ohio

★ ★ ★ *Built by American Workmen* ★ ★ ★

AUGUST 1953

PRINTING EQUIPMENT Engineer

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

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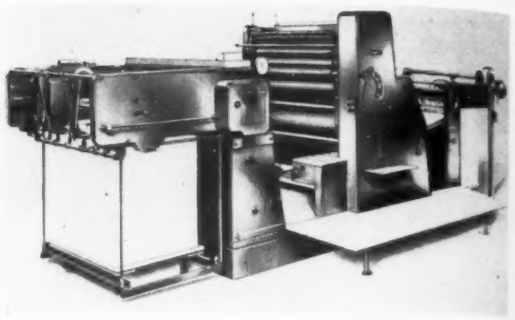
Equipment and Supplies

If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to PRINTING EQUIPMENT Engineer, 1276 West Third St., Cleveland 13, O.



One of the single color offset presses recently announced by Miehle Printing Press & Mfg. Co. These presses will be known as the No. 41 and No. 49 with speeds of up to 6800 i.p.h. and 6500 i.p.h., respectively. Two-color presses in the same models are also available.

Non-Offset Spray Solution

MASTERCRAFT Non-Offset Spray Solution, it is claimed, leaves no after mist or fog in the pressroom United Printing Ink Laboratories, Inc. The spray solution is described as a predetermined crystal size particle which remains in its original size and shape. Sponsor states it does not dissolve in the solution and does not affect the trapping of colors. Please refer to PEE No. 714 when requesting more details.

Four Miehle Offset Presses

THE Miehle Printing Press & Mfg Co. has announced the No. 41 single and two-color and the No. 49 single and two-color offset presses. The No. 41 presses will handle a max. sheet size of 30 in. by 39 in. at speeds of up to 6800 i.p.h., while the No. 49 will accommodate sheets up to 36 in. by 49½ in. at speeds of up to 6500 i.p.h. These presses are manufactured by Faber & Schleicher of Offenbach am Main, Germany.

Miehle claims the presses are built to produce true rolling contact at the printing line, both between plate and blanket and between blanket and paper. All four presses are equipped for automatic lubrication of all main bearings. Individual fittings meter the proper amount of oil required at each point.

The stream feeder on the presses separates sheets by the use of air only. Each sheet is slowed down before it contacts the front guides. It is then side and front registered while still partially covered by the preceding sheet moving off the feedboard. A cam actuated swing gripper mechanism picks up the registered sheet and accelerates it to cylinder speed before transferring it to the cylinder grippers.

Delivery features of the presses include suction fingers which take the sheet from gripper bars, slow it down and deposit it on the pile. Suction wheels hold back tail of sheet to prevent it from shooting ahead. Special receptors are designed for removing sheets for inspection.

Design of the press fountain permits the blade to be lowered and returned without disturbing the settings. Form rollers are set from the outside of the press by means of eccentrics. Vibrator motion can be adjusted from zero to a full stroke. Other details on these presses are available by referring to PEE No. 719 in your request.

Polyethylene Surface Treatment

A NEW surface-treating process is claimed to increase printability and ink adhesion, speeds up press runs, and helps solve the major problems of printing on Bakelite polyethylene film transparent packaging material. The process was developed by Chester Packaging Products Corp. According to the

IMPROVE YOUR PRINTING

. . . with better cylinders

For the best possible results, keep your plate and impression cylinders in excellent repair. C. B. Cottrell & Sons Company, original equipment manufacturers, offer the skill and special machinery needed to furnish outstanding service. Write today, or contact our nearest office. *COLOR PRESS PIONEERS*

COTTRELL

C. B. COTTRELL & SONS COMPANY
Westerly, Rhode Island

Claybourn Division, Milwaukee, Wis.

Sales Offices: New York, Chicago, London

TRIPLE THREAT
By
NEW ENGLAND
The Oldest Name in Press Blankets

ONE: Our RED RUBBER BLANKETS are now the finest ever made for a press—the nearest thing to being oil-proof you can put on a cylinder.

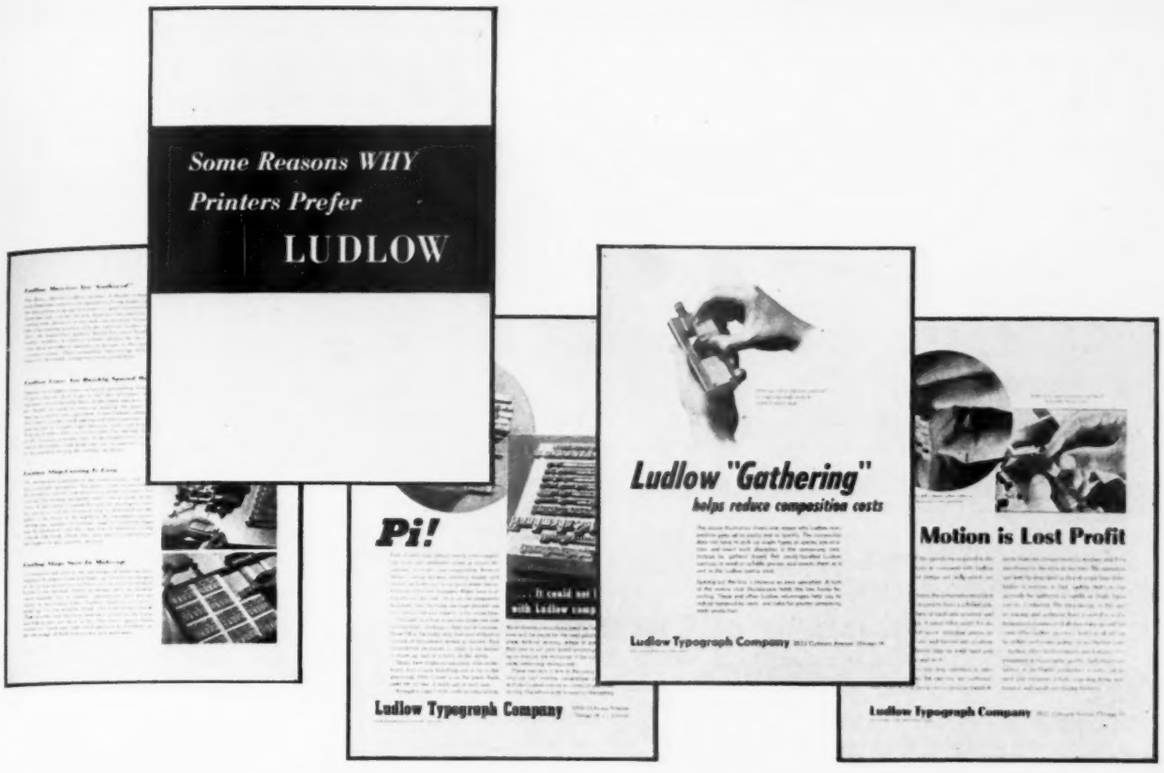
TWO: REGAL MONOCORKS need no introduction. They have built a name for themselves that is the complete envy of the trade.

THREE: When you put an IDEAL tympan over any combination of these blankets you can be sure of a packing that can not be beat.

YOU BE THE JUDGE!

NEW ENGLAND FIBRE BLANKET COMPANY

164 FREMONT STREET
WORCESTER MASSACHUSETTS
BRANCHES: New York—Chicago—San Francisco—Tulsa



"Some Reasons Why Printers Prefer Ludlow"

That's the title of the big, new 32-page booklet we have just completed. It outlines in detail some outstanding Ludlow advantages and operating economies which you should know about.

This new booklet graphically illustrates and describes the way in which the Ludlow helps to solve such printing plant problems as type shortages, type breakage, scarcity of spacing material, excessive press make-ready, press work-ups, congested floor space, multiple forms, and ruleform composition—to mention just a few.

As you go through this booklet you will realize some of the reasons why so many progressive printing and publishing firms, specialty printers and others have discarded the old, time-honored typesetting methods and have changed to the improved Ludlow system of all-slug display and job composition.

Send for your free copy of this new 32-page booklet—it will give you a better understanding of Ludlow's contribution to efficient composing room production. It is real information for you.

LUDLOW TYPOGRAPH COMPANY

2032 Clybourn Avenue, Chicago 14, Illinois

Set in members of the Ludlow Tempo family

STEREOTYPE GUMMED PACKING FELT

Sheets or Ready Cut Strips

GAUGE	SHEET SIZE Superior Non-Perforated	Vent-A-Flex Perforated
.015—.018—.021	18″ x 20″	9″ x 20″
.025—.030—.035	18″ x 22″	9″ x 22″
.040—.045—.050	18″ x 18″	9″ x 18″

Also available in ready cut strips any width 1/8″ to 1″, 9″ long or any length up to 18″. Vent-A-Flex perforated packing cannot be cut to 1/8″ strips—narrowest width in Vent-A-Flex 3/16″ strips.

Ready cut strips in cellophane wrapped bundles.

PRICE	Superior	Vent-A-Flex
Less than 300 sheets	$0.18 sheet	$0.15 sheet
300 or more sheets	.16 sheet	.12 sheet

ASK ABOUT OUR MONTHLY PURCHASE PLAN

Use .015—.018 or .021 gauge Vent-A-Flex perforated packing for Fairchild work.
Scotch 2″ Double Coated tape with special liner also available for Fairchild cuts.

AMERICAN PUBLISHERS SUPPLY, INC.
P. O. Box 421 **Lynnfield, Mass.**

manufacturer, the new treated film called Cheslene TF, can be printed by a wide number of printing processes with maximum coverage and high uniformity of impression. Please mention PEE No. 708 when requesting further information.

Direct Image Offset Plate Manual

A MANUAL for users of direct image offset printing plates has been published by d. i.-Div., Standard Rate & Data Service, Inc. The manual was printed from d. i.-Offset Plates. An interesting publication about plates produced without photomechanical operations. In addition to type matter, a number of 100 line screen halftones are presented for descriptions of steps in the process. It is claimed that 40,000 impressions have been run from d. i.-Offset Plates without signs of breaking down. Use of the transfer press as a step-and-repeat machine is explained, as is also black and one-color work. Plates may be run on standard offset presses. Please mention PEE No. 723 when requesting a copy of this bulletin.

Self-Pressurized Blanket

THE Perma Cushioned Self-Pressurized Blanket is now included as standard equipment on all Gelb vacuum frames, according to an announcement by the Jos. Gelb Co. Features of the blanket claimed by the sponsor include the rapid evacuation of vacuum pressure, provides a mechanical spring back construction and non-fatigue permanent cushion. Please mention PEE No. 713 if you desire more information.

Newspaper Folder Bulletin

THE Omaha Newspaper Folder, designed in different models either for attachment to the press or hand feeding, is the subject of a bulletin recently issued by Modern Equipment Co., Inc. Illustrations in the four-page bulletin show the folder as attached to a front delivery press with insert table mounted in position and third fold delivery basket, as attached to a rear delivery press with insert table mounted in position, as a hand-fed motor driven unit, and as a combined attached and hand-fed unit. Specifications for the Omaha folders are also given. The different models will accommodate sheet sizes from 18 in. by 24 in. up to and including 36 in. by 48 in. A copy of this bulletin may be obtained by mentioning PEE No. 665 in your request.

Pearce Patcher for Patching

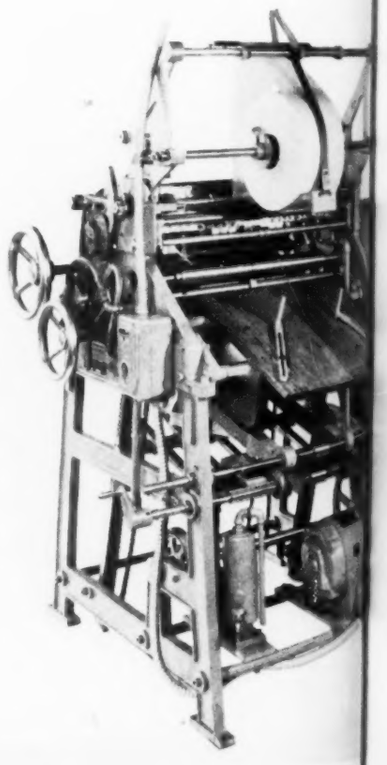
THE Pearce Patcher, designed to patch die-cut openings, has been developed by the Pearce Development Co. The die-cut openings are used in greeting card and folding box blanks, advertising folders and envelopes. Now used in the greeting card field, the equipment is also called an inserting or tipping machine, which inserts colored stocks and foils behind die-cut-outs on greeting cards.

The tipping machine, states manufacturer, will produce 200 patches per min. with one semi-skilled operator.

The Pearce Patcher can be used where roll stock must be cut and placed in position in proper register on a sheet of paper die-cut into shape or with die-cut holes.

The equipment can handle patches as

(*Continued on Page 14*)



A variety of materials can be patched over die-cut openings in greeting card and folding box blanks, advertising folders and envelopes on the Pearce Patcher.

All types, all sizes, and all these advantages

TELL us the type and size of any tapered roller bearing you need and chances are we can supply it. We've had more than 50 years of experience in special bearing problems. Out of that experience have come 26 types and 5,850 sizes of Timken® tapered roller bearings —one of which is almost certain to solve *your* bearing problem.

With Timken bearings you get the one bearing that's best for your application. And you get more advantages than with any other bearing. *Only* Timken bearings give you all these: 1. precision manufacture for uniformity and long life, 2. case-hardened surfaces to resist wear, 3. micro-inch surface finish to minimize friction, 4. Timken fine alloy steel for top quality, 5. tough core to resist shock, 6. positive roller alignment that gives maximum bearing capacity.

Whether you build or buy new machinery, insist on Timken bearings throughout. If you're repairing machinery, use Timken bearings for replacements. And for help with any bearing problem, call on our engineering staff. There's no obligation. Write The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".

TIMKEN *TAPERED ROLLER BEARINGS*

TRADE-MARK REG. U. S. PAT. OFF.

NOT JUST A BALL ◯ NOT JUST A ROLLER ⬭ THE TIMKEN TAPERED ROLLER ⬭ BEARING TAKES RADIAL ⬭ AND THRUST — ⬭ — LOADS OR ANY COMBINATION ✳

"SCAN-A-GRAVINGS save pressroom time for us in getting out the paper!"

says *Vicksburg, Miss., Post-Herald* mechanical team

"We're very conscious of potential delays in the pressroom," says John Boa (right, above), mechanical superintendent of the *Post-Herald*. "Scan-a-gravings help eliminate some of them. That's why we like these plastic engravings.

"For instance, the composing room doesn't have to hold forms waiting for advertising or news cuts. When a page is made up it can be stereotyped right away. Then the Scan-a-gravings can be mounted after the stereo is on the press. This smooths out the work and gets things done faster."

Pressroom Foreman Gives His Reasons

C. T. Beasley (left, above), pressroom foreman at the *Post-Herald*, has these nice words to say about Scan-a-gravings. "The time it takes to mount Scan-a-gravings on stereos is not important because mats come from the composing room in a steady stream rather than a rush. So we have more time to cast stereos right and then put the Scan-a-gravings in place.

"Advertising cuts are no problem because of the even flow of mats from the composing room. That gives us plenty of time to position these Scan-a-gravings properly. The advertisers like the quality that direct printing provides, which makes any necessary extra effort worthwhile.

"Printing Scan-a-gravings direct is simple and gives good quality reproduction. We have run lots of Scan-a-gravings up to 220,000 impressions without showing signs of wear.

"All in all, it's a good feeling to know that these plastic engravings make our work easier, and give us a paper with real high-quality illustrations in it."

● **Scan-a-gravings are made on the Fairchild Scan-a-graver,** an electronic machine for making plastic halftones. Get the full story about how this revolutionary tool can help solve some of your mechanical problems by writing today to *Fairchild Camera and Instrument Corporation, Syosset, Long Island, New York, Department 100-57E.*

FAIRCHILD
SCAN-A-GRAVER

NATION'S NO. 1 NEWSPAPER PRESS

FOR BATON ROUGE'S NO. 1 BOOSTER

The State-Times and Morning Advocate chose the Goss Headliner with Automatic Reels and Tension, Colortrol, Uniflow Folder, and extra color cylinders to meet the growing demands for faster deliveries of larger, better-printed newspapers.

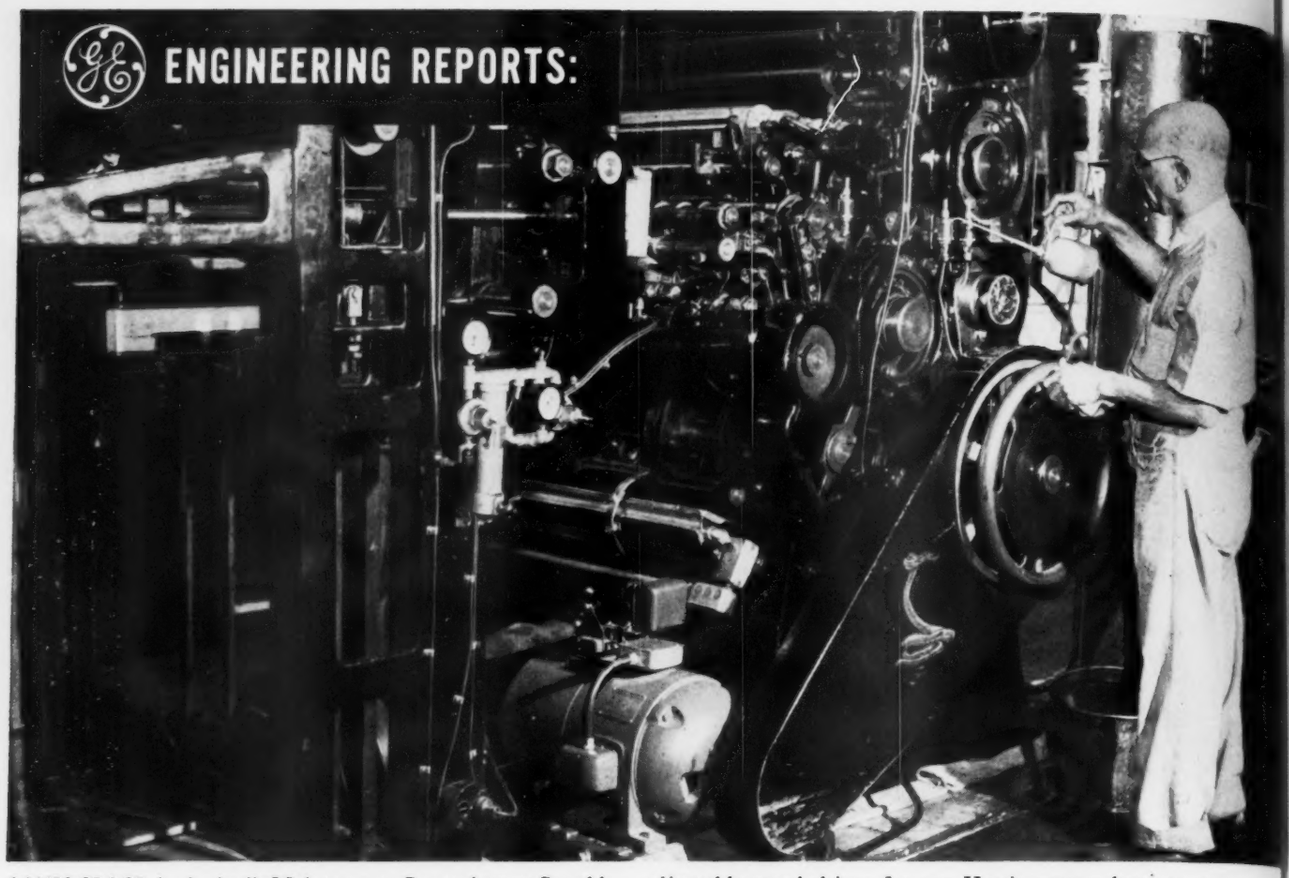
Long identified with the progress of Louisiana's capital, the State-Times and Morning Advocate have recently installed a new Goss Headliner Press to keep pace with the growth of the city

Baton Rouge is one of the South's leading refinery centers and one of the nation's 100 major markets. It is the home of the world's largest Ethyl producing plant, mammoth petroleum refineries and chemical plants, among more than 200 industries.

Throughout the city's rise as a metropolis, one fact has stood out — the leadership of the State-Times and Morning Advocate. For over 40 years this leadership has boosted industrial, commercial and deep-seaport prosperity, as well as cultural prestige.

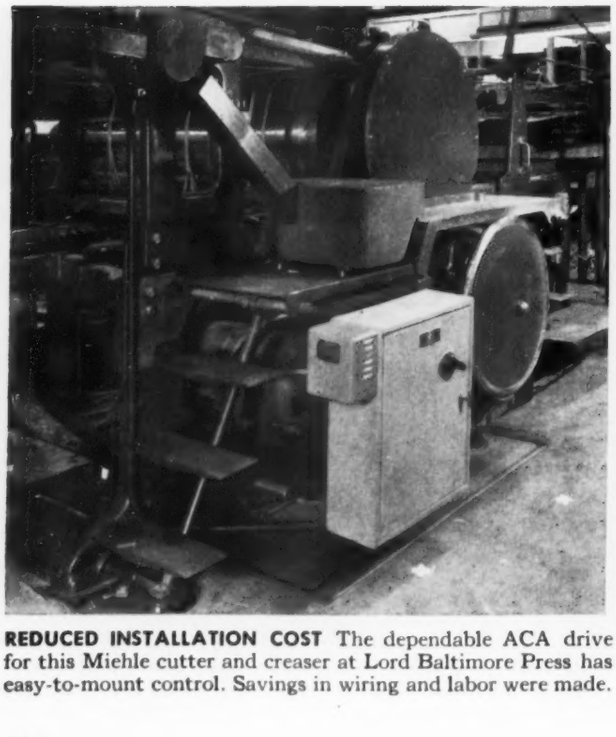
THE GOSS PRINTING PRESS COMPANY
1535 S. Paulina St., Chicago 8, Ill.
Goss Printing Press Co. Ltd., Preston, England

GOSS Headliner PRESS

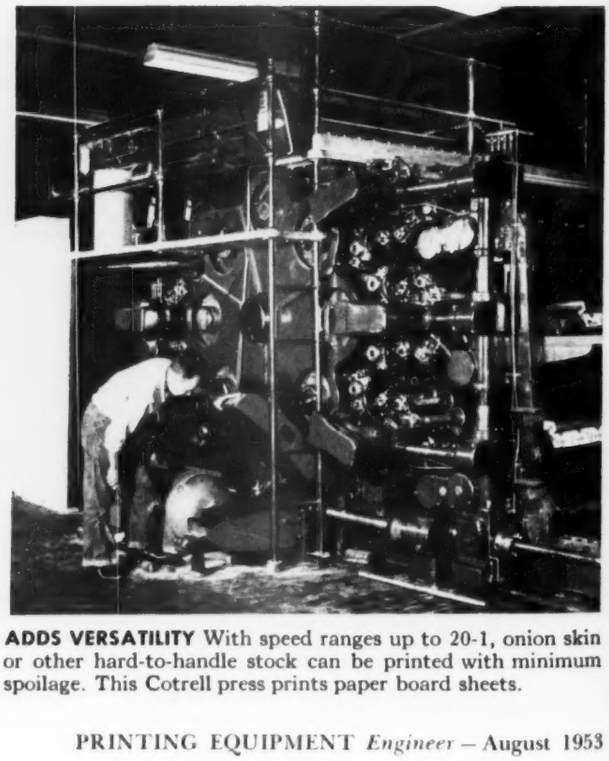


SAVES SPACE A. A. Arell, Maintenance Supervisor at Spaulding-Moss, Boston, Massachusetts, says "We chose G E ACA adjustable-speed drives for our Harris presses because space was critical. Now, we have two presses in the space of one."

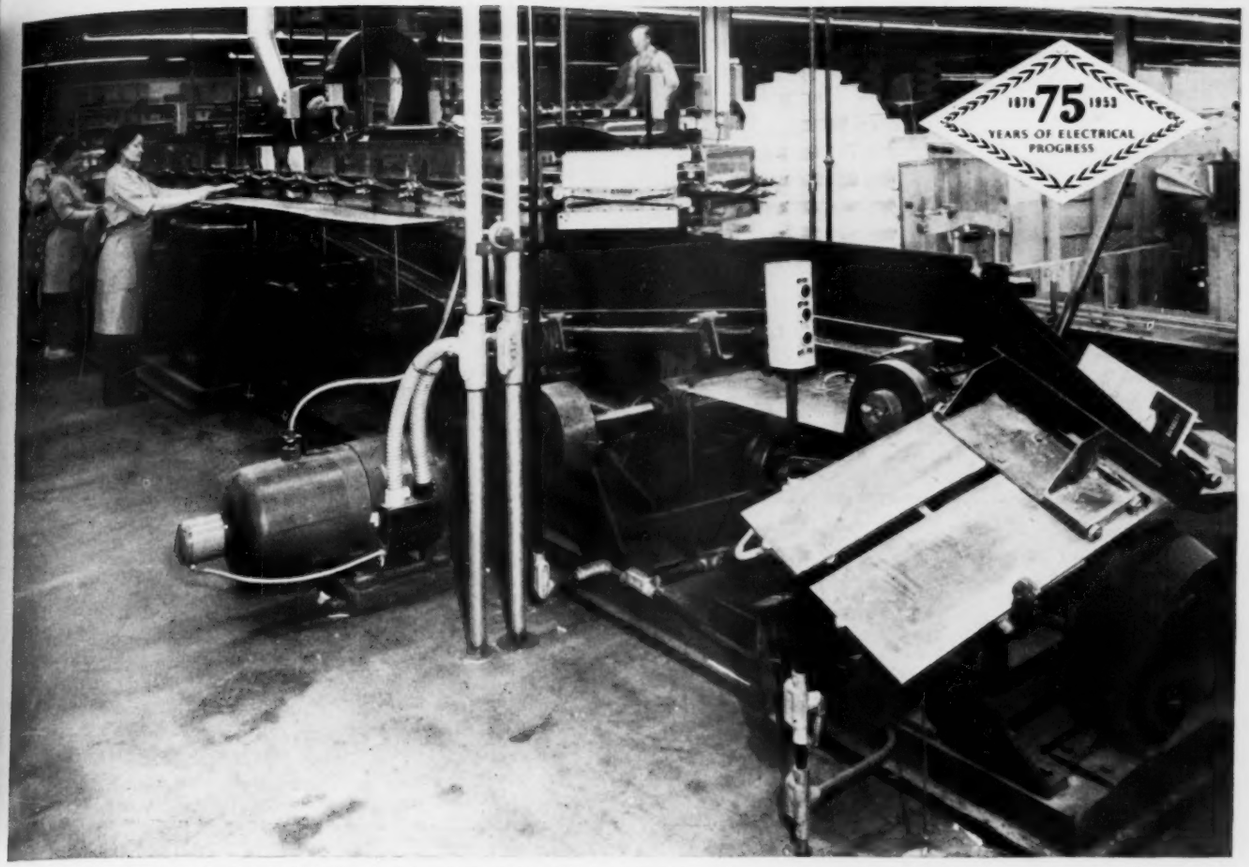
Adjustable-speed ACA drive offers



REDUCED INSTALLATION COST The dependable ACA drive for this Miehle cutter and creaser at Lord Baltimore Press has easy-to-mount control. Savings in wiring and labor were made.



ADDS VERSATILITY With speed ranges up to 20-1, onion skin or other hard-to-handle stock can be printed with minimum spoilage. This Cotrell press prints paper board sheets.



LOWERS MAINTENANCE COST ACA control equipment for this Sheridan binder at the Deseret News Press, Salt Lake City, requires fewer contactors and relays, needs less maintenance. Absence of speed-regulating resistors cuts upkeep cost.

printers a valuable "production tool"

Here is a way to contribute—directly —to the output of your plant

General Electric's outstanding ACA press drive is a simple, low cost method to get d-c adjustable speed versatility from an a-c power supply.

This tough, dependable equipment is more than a drive. Properly selected, it is a tool that will play an important part in your production—and in the profit you show on that production.

It can provide maximum operating speeds consistent with good quality no matter how wide the variety of ink, paper stock, coverage or impression handled.

There are other reasons why ACA press drives are valuable tools. Higher product acceptability and more accurate register, thanks to ACA drive's smooth, properly timed acceleration. Fewer starts and stops and reduced set up time—because the drive provides constant, low-speed threading or idling. Each of these helps reduce production costs. All of these are ACA press drive advantages.

Would you like to learn the full story? Fill in the coupon, or contact your local G-E Apparatus Sales Office. General Electric Company, Schenectady, 5, N.Y.

GENERAL ELECTRIC

General Electric Company,
Section A653-29
Schenectady 5, New York

PLEASE SEND ME YOUR NEW BULLETIN —GEA-5568A
on the General Electric ACA Adjustable-speed Press Drive for commercial printers.

Name.....

Title.....

Firm.....

Address.....

City..... State.....

Equipment & Supplies

(Continued from Page 8)

large as 5 in. by 11 in., and will take a sheet up to 16 in. by 20 in. It is stated the Patcher will put patches on paper as light as No. 13 airmail stock up to 15 pt. tag board. Patch material used can be acetate, metal foil, metal and paper laminants, cloth, embossed paper and cellophane.

The overall machine size is 36 in. wide, 40 in. long, and 66 in. high. The Patcher is equipped with a 1 h.p. Variable Speed, 220 v. 60 cyc. a.c. motor. Please mention PEE No. 683 when requesting further information.

Duplicate Plates

DESCRIPTIONS of electrotypes, plastic plates, stereotype mats and plates are given in a bulletin prepared by Rapid Electrotype Co. Printed in bronze, red and black, the bulletin includes brief discussions of Tenaplate, Vinylite and lead molding mediums. The bulletin was prepared for use as an educational poster within printing plants. Other duplicate plates both illustrated and described include Atlantictypes (steel-faced electrotype with a copper shell), dealer cuts (trademarks, logotypes, etc.), curved press plates, carton plates, wax engravings, ad electros and mounted plastics. Other parts of the bulletin are devoted to views of Rapid's plants in different cities. Please ask for PEE No. 695 if you desire a copy.

Gathermatic Collator

IT IS stated frankly by the sponsor, Thomas Collators, Inc., that an electric-powered machine for gathering duplicated pages into sets has been developed for office use. The Gathermatic is designed to assemble reports, surveys, lists,

View of Thomas Gathermatic Collator for office use in automatically assembling reports, surveys, lists, bulletins, etc.

bulletins and other papers. Manufacturer states machine will collate sets of 2 up to 8 pages at speeds as high as 29,000 sheets per hour.

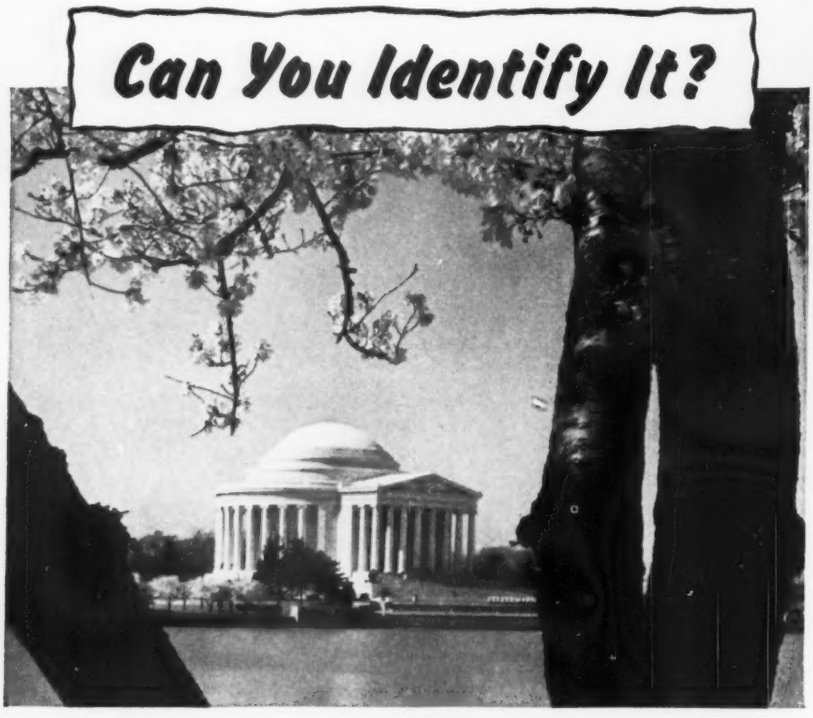
Pages to be collated are stacked into bins. Rubber-tipped fingers push the top sheet of each stack out to a motor-driven delivery roller. The sheets cascade down the roller and are automatically jogged before being deposited into a receiving tray. The operator keeps the sets separated by sliding alternate sets to opposite sides of the tray. By adjusting a hand lever, manufacturer states speed of delivery can be regulated from 12 to 60 sets per min. All pages are visible for inspection to avoid blanks or misprints slipping through. Depressing a foot switch stops the machine. If further information is desired, please mention PEE No. 685 in your request.

Composing Room Cabinets

CABINETS designed for different uses in the composing room are the subject of a bulletin issued by Petersen and Charles Mfg. Co. Descriptions, illustrations and specifications are included for the following equipment: Cut and Matrix Cabinet, Matrix Storage Cabinet, Cut and Halftone Storage Cabinet, Galley Cabinets, Operators' Copy Cabinet and Matrix Sorts Cabinet. A copy of the bulletin is available by mentioning PEE No. 693 in your request.

Miller 27x41 Press Booklet

A STRIKING booklet, both from a typographic and presswork standpoint, has been prepared by the Miller Printing Machinery Co. to describe the Miller 27 in. by 41 in. SY Single Color press. The booklet consists of 24 pages and is printed in black, on the press which is described. Included are examples of ink coverage using combinations of halftones, type, solids, fine lines,



• The cherry blossoms help place it in Washington, D. C. But—is it the Lincoln or Jefferson Memorial?

In stereo work good reproductions are easily identified by sharpness of detail . . . gradation of tones. For such favorable results time after time—line or halftone—leading stereotypers *depend* on BURGESS MATS. They *know* that BURGESS MATS register every detail without fail.

There's no substitute for quality . . . so it will pay you to use BURGESS MATS.

(Jefferson Memorial)

BURGESS CELLULOSE COMPANY
Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats
Freeport, Illinois

A Laboratory Product
BURGESS Chrome MATS

12 more

HOE PRESS UNITS

for

...will provide a total press capacity of 64 Hoe units

BUILDS THE BEST

In the big, modern *Los Angeles Times* and *The Mirror* plant, four additional Hoe Color-Convertible units have recently been placed in service and eight more will be installed in the near future.

With this new installation the newspaper printing division of *The Times-Mirror Company* will have a total of 64 Hoe Units in its newspaper pressroom, on which complete ROP color printing facilities are available, making it the largest newspaper plant in the West. In addition to these the plant also has a large Hoe 26-cylinder multi-color press for the printing of comic sections.

An 8-unit Hoe newspaper type press, with special folders for producing telephone books, is installed in *The Times-Mirror Press* Telephone Directory Plant.

Whether for printing standard-size newspapers in black and white or in color; for printing tabloids; or for special high-production jobs — the Hoe Color-Convertible Press is tops in all-around performance.

R. HOE & CO., INC.

910 East 138th Street, New York 54, N.Y.

BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO • BIRMINGHAM • PORTLAND, ORE.

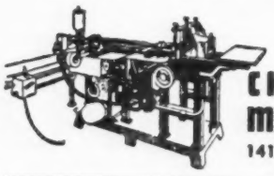
MASS MAIL

The CHESHIRE Way*

● Automatically attach addressed labels at operating speeds up to 18,000 per hour. Faster, more accurate than any other method, hand or machine. Opens mail room bottlenecks, maintains schedules, reduces subscription complaints.

100,000,000 mailings per month on Cheshire machines. Earlier models still operating after 24 years' constant use.

* An addition to, not a replacement of, your present addressing system. Apply roll strip or continuous pack form labels.



CHESHIRE MAILING MACHINES, INC.
1415-25 W. Altgeld Street, Chicago 14, Ill.

The Look that asks — "WHY DOESN'T HE COME?"

We hope it is not the driver for YOUR paper that tries the patience of this long-time reader and booster.

Because, pretty soon, he will give up and buy the Other paper. Yes and he might get to liking it.

Mat troubles? That's too bad. Has your stereo department tried good, dependable Certifieds? They seldom disappoint readers in promptness or in quality.

For dependable stereotyping, rely on Certified Mats

Certified DRY MATS

CERTIFIED DRY MAT CORPORATION, 9 Rockefeller Plaza, Dept. M, New York 20, N. Y.

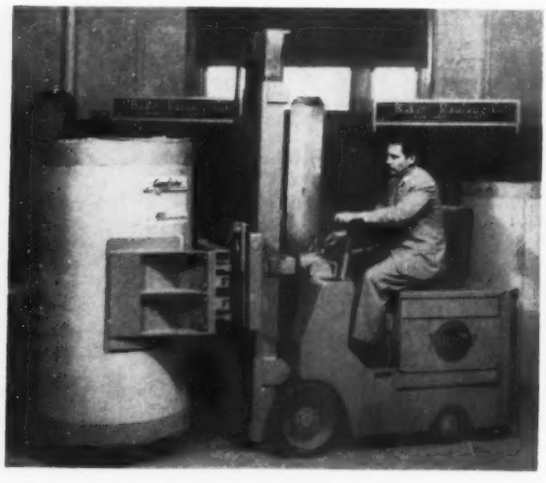
reverse cuts and screened lettering. Specifications, details of construction, floor plans and a description of the capabilities of the press are among the contents of the booklet. It may be obtained by mentioning PEE No. 704 in your request.

Newsprint Handling Truck

THE Baker Newsprint Handling Truck has been designed for movement of newsprint rolls up to 1900 lbs. weight and 40 in. diam. and permits loading and unloading of railway cars and highway carriers and from storage to the press by one man. Rolls can be picked up vertically or horizontally. The power compartment is supplied with removable top plate; the side plates are hinged to battery retainers; inside dimensions are 31 in. wide by 27½ in. lengthwise by 23½ in. high. Lifting is accomplished with simple hydraulic jack with movement compounded through a pair of chains and rollers. The Baker-Universal revolving head can be furnished to provide 90 deg., 180 deg. or 360 deg. revolution. The mast assembly is designed for quick interchangeability on the job for different lift requirements. The hydraulic system is of low pressure type. Motor driven gear pump supplies oil under pressure to either lifting or tilting cylinder with speed controlled by a metering valve.

Travel speed (at approx. 36 v.) with no load is 7.5 m.p.h.; loaded, 7.0 m.p.h. Lift speed, no load, 33.5 f.p.m.; loaded, 27 f.p.m.

Other features have been built into this mechanism but will not be described here. For further information please mention PEE No. 722 in your request.



View of Baker Newsprint Handling Truck which was on display at recent Milwaukee ANPA Mechanical Conference. Roll weight capacity is 1900 lbs. Rolls up to 40 in. diam. may be handled vertically or horizontally.

Flashlight for Illuminating Inaccessible Places

AN industrial flashlight with extensible probe lamp is reported to be useful in inspecting dark and/or inaccessible places in equipment. In addition, the flashlight carries the usual light source

at the end of the casing. This new product has been named Usalite Duo-Flex flashlight by U. S. Electric Mfg. Corp. The flashlight is fitted with both a 1000 ft. light beam and a flexible slide-out cable with bulb and plastic guard. Overall extension of the probe light is 10½ in. Further information will be given upon mentioning PEE No. 720 in your request.

Line-up and Register Tables

CRAFTSMAN Line-up Table Corp. has issued a 20 page catalog on its line-up and register tables for both letterpress and offset printing plants. Features of the following tables are well illustrated and described in the catalog: the Standard line-up and register table for letterpress plants, Precision Photo-Lith layout

(Continued on Page 22)

LIGHT
is our business!

Peek into any lithographing, printing or engraving plant. The odds are that you'll see Strong Grafarc lamps being used in the graphic arts processes.

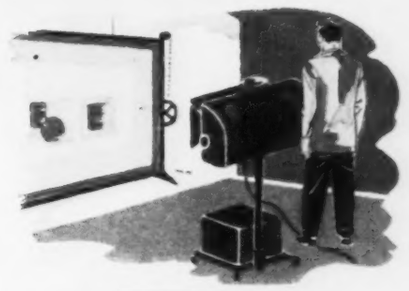
In most theatres and drive-ins, and even many schools, colleges and universities you'll find Strong-made arc lamps are used to project brilliant pictures to the screen.

In many of these theatres and institutions of learning you'll also see Strong arc and Mazda spotlights used to obtain a sparkling light on "live" shows. Colleges use them in their stadiums during "half-time ceremonies." Auditoriums, arenas, hotels and night clubs declare they have no equal. There's hardly an ice show or other traveling attraction that doesn't carry a battery of them.

Strong goes to churches and Sunday Schools wherever hymn slides are used and audio-visual religious education is at work. In those instances as well as in schools with rooms which are difficult to darken, nothing has been found to equal the Strong arc slide projector. Hotel meeting rooms use them for sales meetings and engineers conferences where large images must be projected for viewing by sizable groups. With theatres and drive-ins this projector fills a long-standing need.

On the wings of planes carrying our fighting man, again you'll see Strong products. This time it is Strong searchlights occupying the place of trust.

With Strong, designing equipment for projecting light is a science and a business. There are Strong Grafarc lamps designed for all photo-mechanical processes—printing lamps, camera lamps, photo-composing lamps and overhead printing lamps.



Send coupon today for free literature and prices.

The Strong Electric Corporation

307 City Park Avenue **Toledo 2, Ohio**

Please send free literature and prices on Strong Grafarc lamps.

NAME _____

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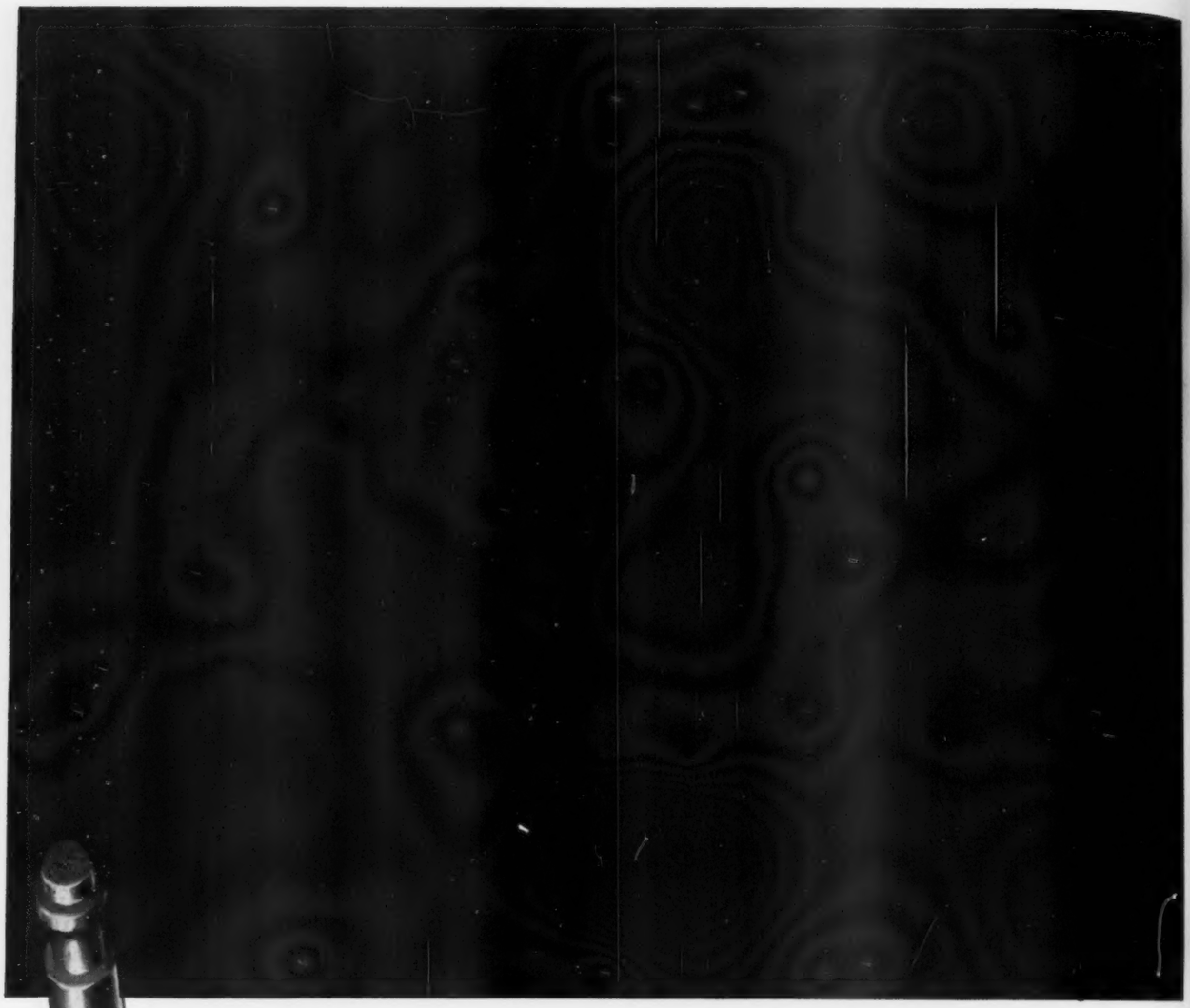


MERCURY ROLLERS and BLANKETS

Your fussiest customers will be delighted with the reproduction that you secure on Mercury Products. It's so much easier to get good results when you have the finest accessories! The industry's most precise testing methods assure the absolute accuracy of these rollers. You'll like the way they perform—everyone does!

FOR ALL GRAPHIC ARTS PROCESSES

ATF-Mann one-color offset press L148A

"We turn out top-grade lithography at profitable production speeds on our ATF-Mann press"

• Ask any of the men who own, or run, an ATF-Mann one-color press and you'll get this story every time. Here's why:

The basic design of the ATF-Mann is different than that of other offset presses. Massive, balanced construction, and unequalled precision engineering of moving parts keep the ATF-Mann running smoothly in the high speed range.

The smoothness of operation and the accessibility of every ATF-Mann control provide an accuracy of adjustment never before possible. And the exclusive features of the new ATF-Mann open up new possibilities in the control of inking, register, impression. That's why the ATF-Mann turns out high-grade lithography at speeds of 4000 to 6000 impressions per hour.

The seven presses in the ATF-Mann one-color line range from a 23″x36″ to a 42″x65″ maximum sheet size. Expert ATF-Mann maintenance and parts service is immediately available through all ATF branches. For complete information, write American Type Founders, *a subsidiary of Daystrom, Inc.*, 200 Elmora Avenue, Elizabeth, New Jersey.

Ask the man who owns a Mann— he'll tell you...

"IT PAYS TO BUY THE FINEST"

Features of the new ATF Mann presses:

FLOATING IMPRESSION: Massive centrifugally-cast precision bearings support the entire weight of the cylinders without bearers. Proper engineering and massive construction permit this exclusive feature which results in better quality lithography.

EXCLUSIVE INKING SYSTEM: Mann presses have more rollers, more inches of ink travel from fountain to plate, and fuller coverage of the form than any offset press in America.

MASSIVE CONSTRUCTION: Size-for-size, Mann presses are the heaviest presses built, and weight is the basic requirement for good register. Unequalled sturdiness of frames, journals, bearings, helical gears and moving parts keep these precision machines running smoothly.

Type faces shown are: Bodonis, Spartans, Dom Casual, Alternate Gothic No. 2.

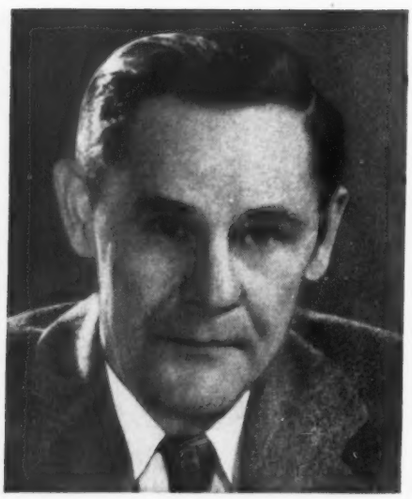
Better, more profitable printing from the widest line of processes...

GRAVURE...LETTERPRESS...OFFSET

ATF

What would you look for in a job cylinder press?

by Thomas E. Dunwody



Thomas E. Dunwody, president of International Pressmen and Assistants' Union of North America, editor and manager of *The American Pressman*.

WE WOULD LOOK for a press that produced the quality desired. This could be determined only after carefully analyzing the work in the plant, and other jobs that could be obtained. The desired quality may be high or low, or anywhere in between, but, first of all, the press would have to be capable of producing a quality that would satisfy the customer.

We would look for a press that would produce the greatest volume of work of the desired quality; a press that would do this at the lowest cost.

In determining the foregoing it is necessary to consider basic machine factors which have a direct relation to these fundamentals:

Impression. One of the first things we would try to determine is whether or not the machine has adequate impression to produce the specified quality classification. We might know something about this from personal experience, or obtain some of this information through observation or the experience of others. If possible, we would have the manufacturer demonstrate the impressional strength of the machine or make tests ourselves.

Inking. Is the inking of the press adequate for the quality required? This involves the number of rollers, the diameter of the rollers and the arrangement of the rollers and other inking parts. We would also consider the type of adjustments employed on the inking mechanism, especially for roller settings. We would observe the other inking parts. We would ask the manufacturer to make demonstrations and if possible make tests ourselves.

Sheet Control Parts. This perhaps is the most important factor related to production on any small printing press. To a very great extent, actual production is dependent upon the efficiency of the sheet control parts. By sheet control parts we mean everything on the press from the pile in the feeder to the printed pile of stock in the delivery that has anything to do with the control of the sheet. We would want to know about the ability of these sheet control parts to control stock and provide trouble-free operation, not only under normal conditions, but under troublesome conditions, such as bad cases of static electricity, or curled stocks. We would determine the number of adjustments necessary for changes of various kinds, sizes, and weights of stock, as well as stocks in varying conditions, such as wavy or curled stock. If possible, we would compare actual production with top press speed so far as sheet control is concerned and compare actual production on this ma-

chine with actual production on competitive machines in the same size range.

Speed. We would want to know the speed range of the press, and also the relation of actual production to top press speed for at least five general quality classifications as follows: troublesome, superior, good, medium and ordinary. If possible we would make a comparison of actual production between competitive machines of similar size on various work quality classifications.

Change-over Time. We would want to know the comparative change-over time for varying kinds, sizes and weights of stocks and various job quality classifications. This involves the number of changes, the tools required, and the time required in comparison with competitive presses. It also involves other considerations—troublesome mechanisms, for example, that require constant or frequent attention after a job is started.

Manning. Can competent operators be quickly trained if they are not already available? What are the manning requirements?

Cost. We would consider cost last and we find the industry in general doing this because the other factors must be determined or considered before cost means anything. We would want to know the total cost of the press installed, ready to run. We would want to know maintenance cost, replacement cost and operating cost.

It may be worthy of note, that at the Graphic Arts Exposition in Chicago in 1950, a survey of dozens of manufacturers indicated that the great majority of prospects determined first the ability of the machine to turn out high production of satisfactory quality at low cost, and only then looked at the price tag on the machine and asked for other operating, maintenance and replacement cost factors.

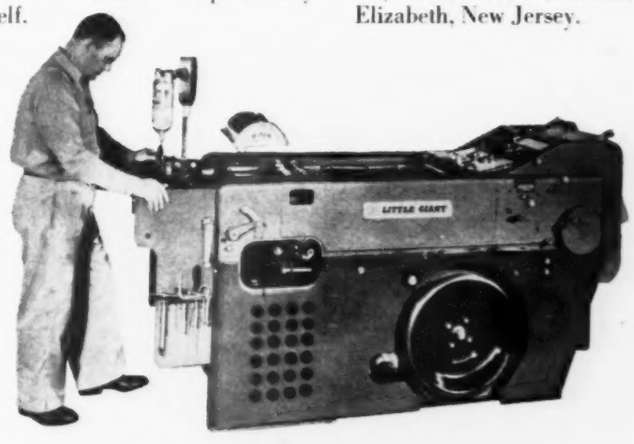
With different machines there are other items that deserve consideration. For example, we would want to know that the tripping mechanism was positive and trouble-free, but in these miscellaneous factors which vary to some extent on different presses, we would consider their performance along the same lines as those outlined above.

Here's how to apply Mr. Dunwody's suggestions to the next press you buy

Although he is not endorsing any particular make, Mr. Dunwody's checklist will be of real value in helping any printer to choose his next job cylinder press. All we ask is that you check ATF's new Little Giant against the points Mr. Dunwody has so thoroughly spelled out.

If you do, we believe you'll find the ATF Little Giant far ahead of any other press in its size range. It's the only job cylinder press, for example, with *three* rollers completely covering the form. It prints at a lower cost per thousand impressions than any of the others. It has the same superior impressional strength as the famous Kellys, and requires a minimum of adjustments for various stocks.

Form changes can be made right on the press. Its cruising speed matches that of any small press, and its automatic controls enable it to practically run itself.



If you have any specific questions on the ATF Little Giant or would like to see it in action, call your nearest ATF branch office or write to American Type Founders, *a subsidiary of Daystrom, Inc.*, 200 Elmora Avenue, Elizabeth, New Jersey.

Better, More Profitable Printing from the Widest Line of Processes

GRAVURE . . . LETTERPRESS . . . OFFSET

ATF

Equipment & Supplies

(Continued from Page 16)

table for offset plants, and the Litho-Offset utility table for letterpress, offset, label and carton printers, platemakers and photoengravers. Among the features of the Photo-Lith layout table discussed are the straight edges and controls, vernier dials for positioning straight edges to close dimensions, automatic spacer, side guide sheet stops and grippers and stainless steel scales. A page is devoted to the stylus marker which is provided with pen and stylus points. Specifications for all these tables are also listed. A copy of this catalog is available by mentioning PEE No. 663 in your request.

Fototype Catalog

FOTOTYPE Incorporated has made available a 48 page specimen catalog showing examples of 150 Fototype type faces. The Fototype system is a method of preparing display lines in layouts for photographic reproduction using individual die-cut letters. The individual letters and spaces are placed in an adjustable, self-aligning composing stick and held together by Scotch tape for removal from the stick. The catalog includes sections on self-aligning transparencies and explanations of the Fototype system. For copies of this catalog, please mention PEE No. 678 in your request.

ATF'S Heritage

AMONG new type faces being introduced by American Type Founders is a semi-script called Heritage. According to typographers who have seen the new face, Heritage speaks for itself.

The quick brown fox

Heritage has its roots in calligraphy of the Eighth Century and is also a type for the future, as it possesses the utility of modern lettering. Heritage was designed by Walter McKay with an eye to its supplementing other scripts, especially in social printing, such as invitations and wedding announcements. Available in sizes from 14 pt. to 30 pt. Please mention PEE No. 717 when asking for further information.

To: Miller Printing Machinery Co., 1103 Reedsdale Street, Pittsburgh 33, Pa.

Dear Bill:

I can't write an ad for you. But if you bring in one of your prospective customers, I'll be glad to tell them about the Miller SW or TW, and many of their features apply to all other Miller models.

The Miller Press, a small package but an awful lot of press, very compact and very easy to get around. The feeder so simple and so few parts, that I had people not familiar with the press ask me where the mechanism operating the feeder was. You can get the press running in half the time because there are less parts to move and of course, less parts to wear. You can change from tissue to cardboard with a very few adjustments. The feedboard made of an alloy will not warp.

The carriage carrying the sheet down to the guides is so constructed as to slow down a few inches before it hits the guides eliminating crowding, and therefore insuring positive register. The cylinder has enough ribs built to withstand the impression of any size form you can put on the bed. The bed tracks are wider than ever and closer to the bearers, and that will prevent any buckling of the bed.

The bed motion so ingeniously designed never out of complete hold, no air cushions necessary for the reverse motion, no vibration felt at any time. The under-carriage of the press has gears wide enough and shafts thick enough to drive a press twice its size. The delivery is so simple, yet, it will deliver any weight stock without any difficulty. You need no hammer to move any of the tapes and pulleys, just a mere twist of a thumb screw and any part slides with ease.

The engineers went all out it seems to me, when the SW and TW were designed. It appears to me that everything built in the press was made bigger and heavier than the figures called for, therefore much longer wear. The full cooperation, both from the New York Office and from Pittsburgh in keeping the Miller Press running is really something to make a prospective buyer think.

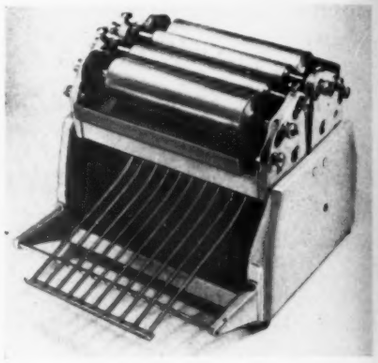
To sum it all up, the Miller Press is a small package, but a "Giant" in performance. I have canvassed many pressmen, old time sceptics, who spoke of nothing but large cylinder presses and who now have capitulated to the Miller units. I also met many owners of the SW and TW units and all of them had the highest praises for them. As I see it, "From delivery to feeder there is more profit in a Miller."

I'm sorry if I let you down. You see, I can do a good job in person, but I just can't write an ad.

Letter written by
Mr. William Metz, Pressroom Foreman
Major Press, Inc.
New York, N. Y.

Casing-in Pasting Machine

THE Ansa Casing-in Pasting Machine is designed to paste both sides of books just before casing-in, according to Hambro Trading Co. of America, Inc. The machine is also suited for annuals, diaries and rounded and backed books of



all types, and for work which, due to size or other factors, such as length of run, does not lend itself to automatic machinery.

In operation, the books are passed through a pair of adjustable, spring loaded paste rollers which apply a uniform coating of paste on both sides and delivered on a chute ready for casing-in. The machine is equipped with paste control rollers which may be adjusted while the machine is in operation. Extra paste is worked into the joints of backed books by holding them between the rollers for a brief interval.

The machine is designed for table top operation. Further information may be obtained by mentioning PEE No. 718 in your request.

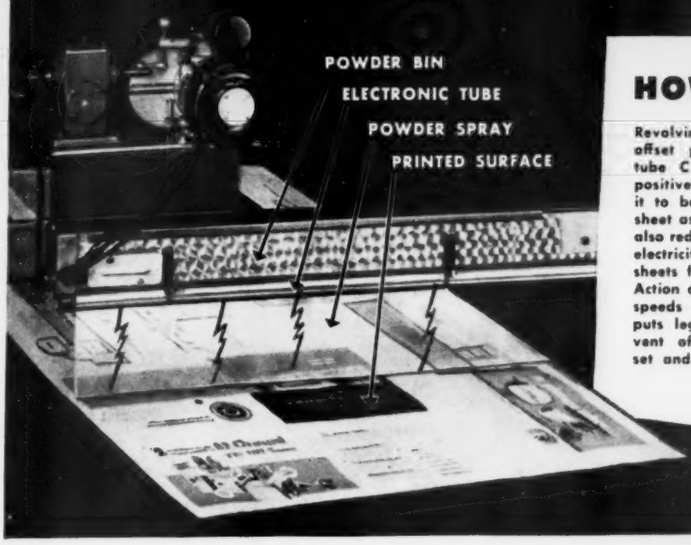
Vibration Control Bulletins

THE Korfund Co., Inc., has prepared several bulletins on isolating vibration on machinery such as printing presses. Korfund vibration control units utilize springs, cork and rubber alone or in combination to reduce vibration and noise. One of the bulletins tells how to isolate vibration with a cushion of cork. The materials used is called Vibracork, a resilient board made of pure granules of

(Continued on Page 28)

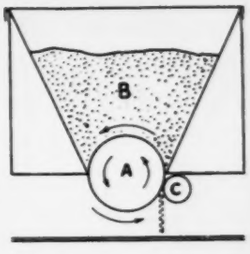
OXY-DRY

THE MOST EFFICIENT OFFSET PREVENTION METHOD



HOW OXY-DRY OPERATES

Revolving shaft A distributes anti-offset pawder B past electronic tube C which gives 10,000 volt positive charge to powder causing it to bond instantly across entire sheet as it is delivered. This action also reduces negative charge (static electricity) in paper which frees sheets from sticking and jamming. Action of ozone emitted from tube speeds oxidation of ink, powder puts legs between sheets to prevent offset and permits inks to set and dry thoroughly.



gives you

- Uniform, full, free flowing loads *for sharply increased hourly impressions*
- Equipment that sprays the sheet only *with dry efficient powder*
- A smooth, clean spray and waste-free operation *that increases your profits by producing more deliverable sheets*

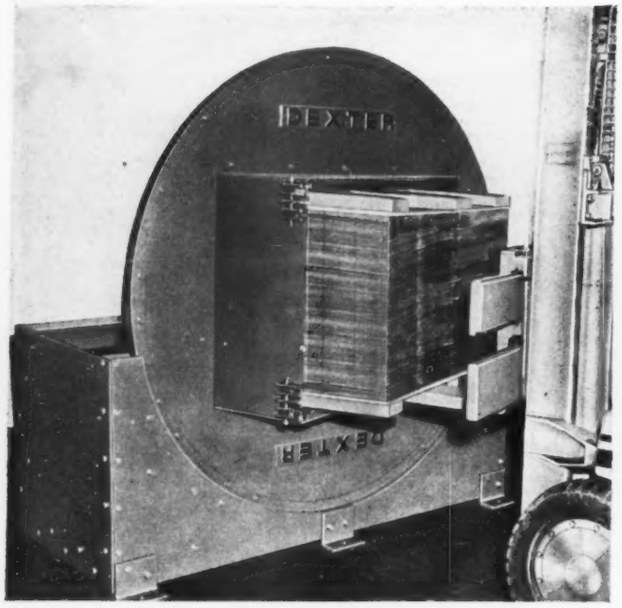
gets rid of

- Uneven loads from spotty build-up of sticky spray or powder clots
- Scatter-shot spraying that coats the whole pressroom
- Messy, dirt-catching spray films and powder clots that waste paper, press time and press maintenance

NEW

OXY-DRY rollers are now furnished with positive powder control etched surface. Eliminates "down-time" for costly labor time sanding, permits operation of sprayer for far longer time without service of any kind except to refill with OXY-DRY powder... one of a parade of improvements you can expect only from OXY-DRY research and development.

The Dexter Metal Sheet Pack Turnover



The Dexter Metal Sheet Pack Turnover

Basically, this motor driven device comprises a "wheel and box" mounted on an axle and set in supporting frame.

Sheets delivered face down from the drying oven in stacks or piles, are trucked on skid into the turnover. A second skid is placed on top of the pile and a half revolution of the turnover brings the pile of sheets to face up position, resting on the second skid.

The pile is then trucked out to the next operation.

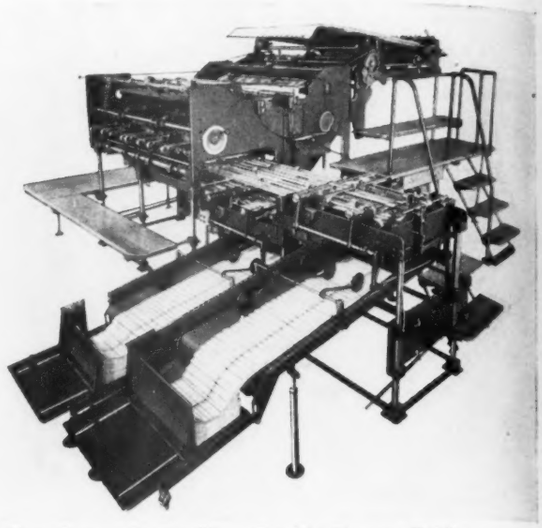
There is no clamping of piles.

The machine is built in two sizes, one handling sheets up to 36 x 36", the other, up to 36 x 44". Minimum size sheet handled by either machine is 16 x 16". Maximum permissible load is 6,000 lbs. and sheets of any thickness can be handled.

The pile is jogged in both directions into the box during the process of turning which takes approximately 20 seconds.

Additional information will be furnished on request.

Speed up the folding of your publication and book work



The New Dexter Single Sheet Double Sixteen Folder

Covering just about the entire range of magazine and book work, and handling sheets of maximum size 44 x 58", minimum 25 x 36", this new Dexter machine produces 16 and 32 page signatures of page sizes from 11 x 14½" to as small as 6¼ x 9".

Recommended speed is 4,500 cycles per hour. Actual production will depend on kind of paper and quality of work desired.

	Page size *Three right angle folds*	
At each cycle the machine delivers two 16 page signatures or one 32 page signature made up of inserted 16's.	Maximum 11 x 14½"	Minimum 6¼ x 9"

These signatures are the same impositions as the old type Dexter Double Sixteen.

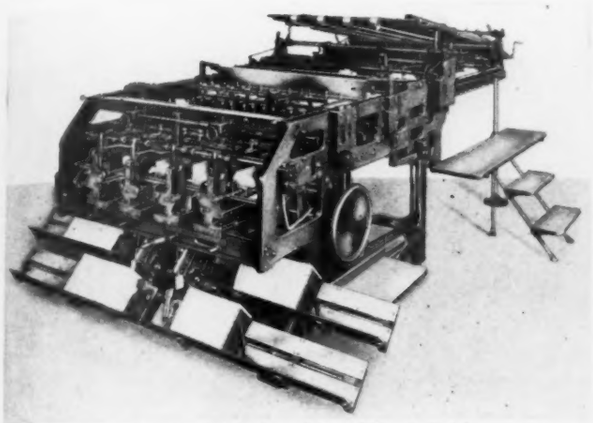
	Two right angle folds with third fold parallel to second fold	
This signature also is the same imposition as the old type Dexter Double Sixteen equipped with parallel 16 attachment.	7¼ x 22"	4½ x 12½"

Using perforator provided, two-up signatures may be torn apart to yield final page sizes from 7¼ x 11" maximum to 4½ x 6¼" minimum.

Equipment includes slitter, perforator, headers-up, Cross combing feeder, stacker deliveries and motorized variable speed drive.

Dexter Folder Company
General Sales Offices
330 West 42nd Street, New York 36, N. Y.
Boston, Philadelphia, Washington, Cleveland, Chicago, St. Louis
Agents in principal foreign countries

High speed folding of quadruple 16 and double 32 page signatures in book production



The Dexter Model "N" High Speed Quad Book Folder.

This machine feeds, folds and delivers four 16 page (two parallel and one right angle fold), or two 32 page signatures (inserted 16's) from 64 page sheet.

Signature sizes: 4⅛ x 6¼" to 7¼ x 10½".

Flat size sheets: 25 x 33" to 42 x 58".

Has Cross continuous feeder which makes reloading stops unnecessary.

This folder easily handles the wide range of stocks encountered in book folding.

Rated speed of machine is 3,000 to 3,600 operations per hour. Actual production will depend on quality of paper and nature of job.

Model "N" Quad can be supplied also as Duplex Quad delivering four 32 page signatures with closed heads.

Present users of Model "N" may have Duplex feature built into their machines.

The "N" Quad folder, taking a 42 x 58" sheet, with or without the Duplex Attachment, is particularly adapted to the folding of sheets from 42 x 58" offset and letterpress rotaries, also from 52 x 76" presses, slitting on the press. The combination of the new high speed presses and the "N" Quad folder will give you the lowest cost printing and folding equipment on book work.

This straight line trimmer does away with needless rehandling and assures unqualified accuracy

The Brackett Safety Trimmer

Accurate, uniform trimming and cutting apart of booklets, catalogs and other bound work is recognized as being just as important as accurate register on press or accurate folding on folders, if the quality of the job is to be maintained.

Accuracy is even more important in trimming and cutting of circulars, labels, forms and other flat work where margins are close and exact size is required.

Trimming of labels, booklets, catalogs, inserts and other flat work is handled by the Brackett at double or triple the speed of the conventional cutter.

On the Brackett, work moves in a straight line, away from the operator, without waste motion or needless rehandling.

The use of mechanically set spacer shafts insures fine accuracy without even the tiniest variation. This accuracy is maintained from start to finish, no matter how large the run.

For jobs that repeat, settings may be retained, with important savings in time otherwise required for resetting.

The Brackett handles work up to 25½" in width and 50" in length.

Standard equipment includes two spacer shafts. Extra shafts for permanent set-ups can be supplied.

Write for literature.

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General Sales Offices
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Agents in principal foreign countries

ELECTROTAB AUTOPASTE

FULLY AUTOMATIC!

A product of over twenty years of WOOD experience in the field of high speed web splicing. NOW equipped with push-button control for splicing at full running speed of the press.

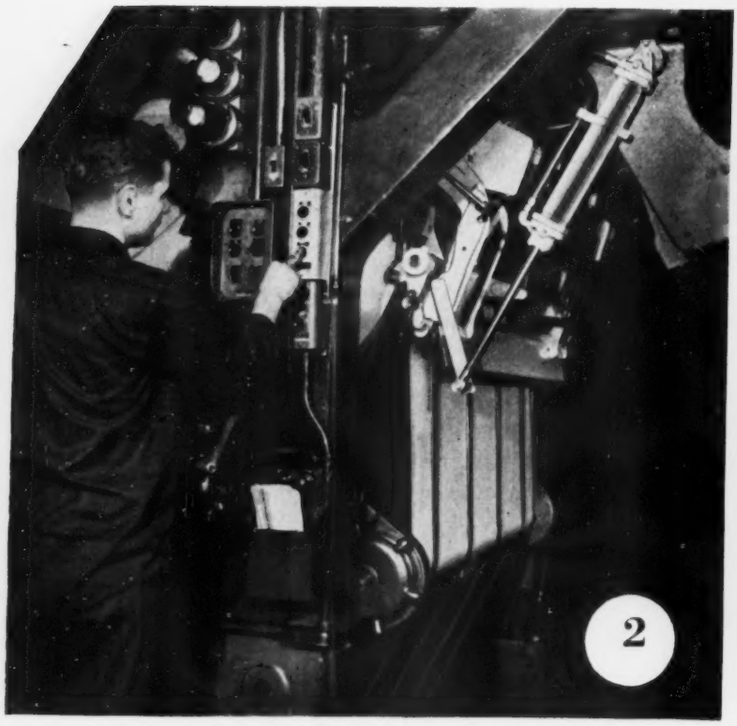
Complete operator control is maintained by three push-buttons.

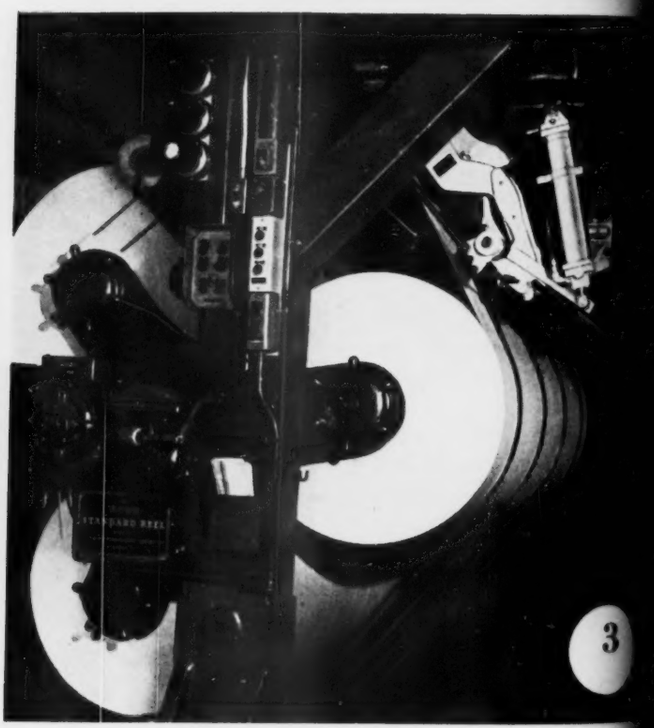
"Lower" button causes Brush Arm to be lowered to splicing position and Drive Wheel to contact and accelerate new paper roll to correct splicing speed.

"Paste" button electrically times the web splicing, tail severing and retracting of Brush Arm and Drive Wheel.

"Raise" button provides means to retract the Brush Arm and Drive Wheel at operator's discretion prior to pressing "Paste" button.

1. ***Brush Arm approaching splicing position.***
2. ***Brush Arm in splicing position.***
3. ***Brush Arm in retracting position, splice completed.***





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WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY • SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17

Are you this printer?

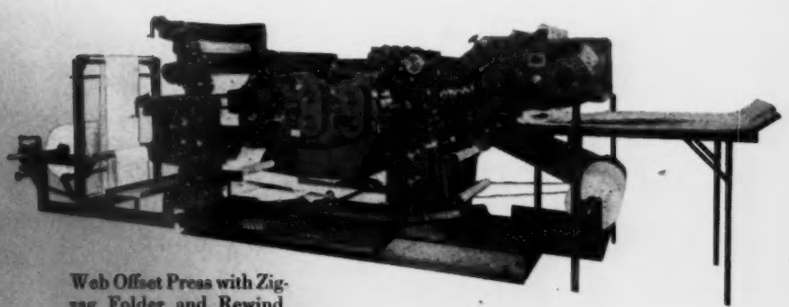
● In the past few months this man's business has reached an important turning point—a point where having the right equipment is going to make it a real success, or where lack of the right equipment is going to seriously impede his further progress.

He's ripe for an ATF-Webendorfer web-fed business forms press. With it, he can compete successfully with any printer in the industry on everything from salesbooks to carbon-interleaved continuous forms.

The tremendous advantage in speed of an ATF-Webendorfer web-fed press over sheet-fed presses enables him to take those high volume jobs where even a small margin of profit still means big money. The once costly finishing operations such as punching, numbering, even carbon interleaving and collating, zigzag folding, rewinding, or former folding (as desired) can be done either right on the press or on automatic ATF-Webendorfer auxiliary equipment.

As a result, the average period of amortization of an ATF-Webendorfer business forms press is less than four years. When owners see how quickly ATF-Webendorfers pay for themselves, nine out of every ten find it good business to order another press from us. To meet this growing demand for web-fed presses, our new Mt. Vernon plant will triple our previous productive capacity.

Are you this printer? We'll be glad to supply the complete information that will help you decide. Write today to AMERICAN TYPE FOUNDERS, Mt. Vernon division, *a subsidiary of Daystrom, Inc.*, Mt. Vernon, New York.



Web Offset Press with Zigzag Folder and Rewind.

Better, more profitable printing from the widest line of processes

GRAVURE...LETTERPRESS...OFFSET

ATF

★ *For the complete story on business forms equipment, write today for ATF-Webendorfer's fully-illustrated brochure.*

On almost this very spot . . .
Ben Franklin built his first Press

Ben was SO interested in the welfare of everybody else . . . everywhere . . . that in HIS HONOR and HIS SPIRIT . . . we'd love and appreciate your allowing us to take an interest in YOUR "Folding".

Ben had Faith in the Future. Never was our Faith greater than at this moment . . . as proven by our desire to FINANCE a "Gold-Mine" in your Bindery . . . the next thirty months.

Initial payment . . . $100 up . . . depending upon size and style Automatic. One day's profit of the Many-Purpose . . . Many-Profit "Gold-Mine" will equal the monthly investment. Use it one day a week and you will net four times your monthly investment in *Velvet Profits.*

Folding can be YOUR most profitable operation.

Perforating can be practically all profit.

You can eliminate wire-stitching . . . eliminate many cutting operations. Fold . . . paste . . . trim and fold for mailing in one operation.

Priced so low . . . returns so great . . . *why delay?*

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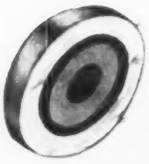


BEVERIDGE MATS (They're the BEST)

like Robinhood they Score a bull's-eye everytime

New Products Division
The Beveridge Paper Company
Indianapolis 4, Indiana

Equipment & Supplies

(Continued from Page 22)

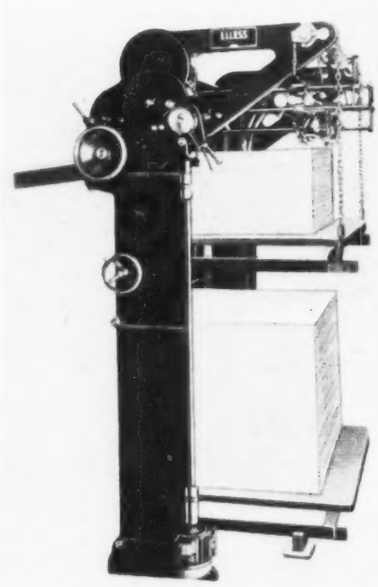
cork, compressed and baked under pressure. Another bulletin deals with Korfund Elasto-Rib, a material recommended by the sponsor for vibration control on job printing presses. This technical literature is available to those interested by referring to PEE No. 674 in your request.

Automatic Production Cutter Bulletin

A FOUR page illustrated bulletin published by Hobbs Mfg. Co. is available. The Hobbs Automatic Production Cutter power-cuts soft materials, such as paper, plastic, cloth and the like, into uniform sheet sizes. Cutter feeds, measures, cuts, takes away material from any in-line production operation, or from roll stock. Slitting attachment optional. Please mention PEE No. 715 in your request.

Bronze Type Agents

THE American Wood Type Mfg. Co. has been appointed American agents for Whiley Bronze Type for gold stamping and embossing. All Whiley Bronze Type is type high in a variety of Roman, Gothic and Italic, from 6 pt. faces to 30 pt. A 9 in. by 12 in. two-page bulletin about Whiley Bronze Type and Accessories is available. Please mention PEE No. 710 in your request.



Two Blue Streak Models of Automatic Stream Feeders have been added to the Elless feeder line by Super Speed Printing Machinery Co. The Cantilever Model shown in the accompanying illustration is for attachment to 43 in. by 56 in. or smaller flatbed cylinder presses. The Four Post model (not shown) is for the same type of press in larger sizes. The new model is designed for use on Miehle and Babcock newspaper and job presses. It is also applicable to folding machines and offset presses including Harris, Potter and Webendorfer units. The new units are intended for feeding paper only. A brochure is available to any printer or box manufacturer. Please mention PEE No. 721 in your request.

Rubber Printing Plates

ECONO methods and materials for making molded rubber printing plates are explained and described in a six page bulletin prepared by Econo Products, Inc. The bulletin contains tables for molding Econo Plastiply Matrix Materials and Econo Rubber Plate Compounds which show the uses of both materials. The two-color bulletin is entitled *Better Molded Rubber Printing Plates.* It may be obtained by mentioning PEE No. 679 in your request.

Shipping Machine Bulletins

A MACHINE for cutting stencils to be used in marking packages, boxes and crates for shipment is the subject of a bulletin issued by Marsh Stencil Machine Co. Three models of the machine are available for producing stencils with ½ in., ¾ in. and 1 in. high lettering. Selection of the desired letter or number character is made with an appropriately marked dial wheel. The bulletin contains illustrations, features, descriptions and specifications of the machine.

Another bulletin from the Marsh company concerns the Electric Dial-Taper, a gummed tape dispenser. The machine is equipped with a dial similar to that on a telephone which permits selection of

"How would you like to double the production of your composing machines?"

Let's not talk vague generalities – let's marshal a few facts.

First of all, how many lines of type are you now getting out of your composing machines?

About 210 lines an hour? That is pretty good for manual operation.

But with TELETYPESETTER operation, it is possible to obtain 400 lines or more per hour, depending upon the rated speed of the linecasting machines.

In the TELETYPESETTER process, none of the functions of the linecasting machine is omitted, and no new functions are added. The improvement in machine output is obtained solely by eliminating the peaks and valleys of stop-and-go manual operation and by substituting the steady, continuous top-level production obtainable through automatic operation.

The system is simple. Tape is prepared at high speed on a perforator with a typewriter-like keyboard. The tape is then fed into the Operating Unit which runs the linecasting machine automatically at its geared output level, turning out lines of type ready to use.

And – as an additional advantage – the TELETYPESETTER Operating Unit in no way interferes with normal manual operation.

Space limits what we can say here. And there is so much more you should know about TELETYPESETTER's advantages and economies. Why not send in the coupon today!

TELETYPESETTER

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Gentlemen: I'd like to know how Teletypesetter can help me turn out more type in less time.

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Company_____

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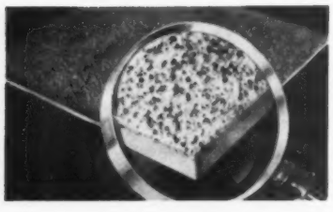
City_____ Zone_____ State_____

Ink mist creates a slipping hazard on *any* conventional pressroom floor. So, when the St. Petersburg (Fla.) Times recently doubled the size of its pressroom, it replaced old-fashioned, unsatisfactory flooring with non-skid ALGRIP Abrasive Rolled Steel Floor Plate. "Completely satisfactory," the Times reports.

Besides non-slip foot safety, one of the best things about ALGRIP is its ability to pay for itself in lowered insurance rates. Compensation premiums, geared to accident rates, are bound to shrink when slipping accidents decrease. And that's inevitable when you install ALGRIP. Reason: ALGRIP's unique construction—with tough, abrasive "grinding-wheel" grain rolled uniformly into steel plate's upper portion. It's virtually impossible to slip on ALGRIP; *hundreds of tiny safety brakes in every footstep* make it anti-skid—even on steep inclines!

Get your *savings from safety*—starting now. Send for our new Booklet AL-33 on long-wearing, breakage-and-fire-resistant ALGRIP. Ask any questions you wish; we'll be glad to answer them.



RECENT INSTALLATIONS—Here are a few recent installations: Plain Dealer, Cleveland, Ohio • Seattle Times, Seattle, Washington • Beaumont Enterprise and Journal, Beaumont, Texas • Washington Times Herald, Washington, D.C. Also many others, names furnished upon request.

◀ Magnification shows even distribution of abrasive grain.

THERE'S NEVER A SLIP ON A. W. ALGRIP

Over 125 Years of Iron and Steel Making Experience

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ALAN WOOD STEEL COMPANY

Conshohocken, Pa.

OTHER PRODUCTS: A. W. SUPER-DIAMOND Floor Plate • Plates • Sheets • Strip (Alloy and Special Grades)

the length of tape desired. A twist of the dial automatically and electrically measures the tape, cuts it off and moistens it with warm water. The dial selection provides tape lengths from 3 in. to 39 in. in any sequence. These bulletins may be obtained by mentioning PEE No. 673 in your request.

Round Cornering Machine

THE Strong Toggle-Operated Round Corner Cutting Machine is described in a bulletin recently made available by Hobbs Mfg. Co. According to the sponsor, the machine permits round cornering from a single sheet to a thickness of 4 in. without adjustments of clamp or knife to accommodate the different thicknesses. It is stated the knife will cut through thick piles of stock without cutter deflection. Pressure is derived from a compensated toggle mechanism which imparts the same amount of pressure to the clamp as to the cutter to prevent slippage during the cutting action. Included in the bulletin are specifications and illustrations of the Strong Cutter showing the electric motor carried on a platform with provision for taking up belt slack. Standard cutters are available in a range of radii from ¼ in. to ¾ in. Additional details may be obtained by asking for PEE No. 703 in your request.

ATF'S Franklin Gothic Wide

AN addition to Franklin Gothic foundry type faces has been announced by American Type Founders. It is called Franklin Gothic Wide. It is available in nine sizes from 14 pt. to 72 pt. Sizes 6, 8, 10 and 12 pt. are in preparation. AFT states the new face makes the Franklin Gothic types more versatile than ever. It is also said to be compatible with a score of body types that have become favorites. Specimen sheets are available. Please mention PEE No. 725 in your request.

Preparing Copy for Flexographic Printing

MOSSTYPE Corporation has published a four page bulletin entitled *How to Prepare Copy for Flexographic Printing With Rubber Plates.* The bulletin contains descriptions and illustrations of the seven basic factors that must be considered in planning artwork for rubber plate printing. A page is devoted to color separation showing examples of composite and separated artwork. Copies of the bulletin are available by mentioning PEE No. 659 in your request.

Bulletins on Press Heaters and Static Eliminator

SEVERAL two-color bulletins pertaining to the Parabolic Glo Heater, Oxy Neutralizer Bar, infra-red ovens, gas ink dryers and the Labmaster Radiant Heater have been issued by Herbert Products, Inc. The Parabolic Glo Heater is designed for drying freshly printed sheets on web presses, offset presses, sheet-fed presses, gluing machines, ruling machines and for general drying purposes. The gas ink dryer, available with two types of cutoffs, may be installed on all types of

(*Continued on Page 63*)

Be your own Santa Claus in August

And you'll be money ahead by Christmas!

Dollar for dollar the Original Heidelberg is far and away your best press buy. The Original Heidelberg completes more jobs per day than any other platen press... and does it easier, too. Its *fully* automatic design (no hand feeding) means easier, speedier get-away, increased production... and *more* dollars in the bank for you.

Get your Heidelberg now... and when Christmas comes, you can *really* afford to play Santa Claus.

Distributors of Heidelberg Automatic Presses

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Uncle Mat Says:

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"THE GREATER THE VARIETY OF TYPE FACES USED, THE GREATER THE VALUE OF MATRIX CONTRAST SERVICE"

In display composition, with its larger assortment of type faces and sorts, the use of Matrix Contrast Colors will give you great savings in linecasting operation . . . a bonus that newspapers and job shops with a variety of type faces receive when adopting Matrix Contrast Service.

When the reference marks are treated in bright contrasting colors such as red, green, yellow, orange, or white, the clear-cut characters show any variation in colors immediately. The occurrence of wrong fonts is eliminated and pi mats are selected with assurance. With the squint taken out of his work, the operator delivers a greater quantity and a better quality of composition.

Take it from your old Uncle Mat...

not one but five persons are pleased when Matrix Contrast Service is installed . . . the operator, the machinist, the employer, the reader, and the advertiser.

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PRINTING
EQUIPMENT
Engineer

August 1953

Skin Diseases

In the Graphic Arts Industry

By DR. W. SCHWEISHEIMER

IN A large printing establishment, a considerable percentage of plate printers had suffered for years from repeated skin lesions of hands and arms. So frequent were these lesions that both the employees and the management requested an investigation of the causes.

Dr. P. A. Neal, U. S. Public Health Service, who described the experience, found that most of the skin eruptions (eczema) occurred among the group of plate printers and their skilled helpers. The trouble-makers were the inks and the cleaning materials used for the plates and for the skin. For cleaning, the printer used a light mineral oil in which the ink is soluble. The hands were wiped off with cheese cloth; then soap and water were used to remove the oil from the hands. Many workers used a stiff brush for scrubbing. Some used potassium carbonate with the brush, while others used white sand.

Most cases of occupational skin diseases occur in the smaller shops where hand compositing is done. Only occasionally is there an outbreak among the typesetters in some of the larger printing shops.

Possible Dermatitis Causes

Black halftone and job printing inks usually consist of a homogenous mixture of carbon black, a resin, and a drying oil. News ink, however, consists principally of carbon black and mineral oil. Such compositions are considered not irritating to normal skin by Drs. Schwartz, Tulipan and Peck, foremost experts in this field. Colored printing inks, however, they say, contain in addition to the resin and drying oil, finely ground mineral colors or synthetic dyes, and these may cause dermatitis (skin inflammation) in sensitive workers coming in contact with them.

Metallic colors in form of pastes or powders composed of metals such as aluminum, gold, silver, copper, bronze, white lead, and zinc white finely ground with a gum or resin, are used in coloring printing. Dr. E. A. Oliver reported 15 cases of rotogravure ink dermatitis among the readers of the colored section of a newspaper. By skin tests he proved their origin from the dye paranitraniline in the red ink.

Industrial dermatitis is more frequent than any other occupational disease. Approx. 65 to 70 per cent of all occupational diseases are skin affections. In the printing industry, skin affections are nearly always caused by an allergy condition.

This is of economic importance as well. Estimates by leading authorities indicate that the average loss of a workman's time due to occupational disease of the skin is 10 weeks, with a compensation cost of $150 and a medical cost of $100.

Contact with Solvents

Jacob Loft, in his book on the Printing Trades, has mentioned that press workers were affected by direct contact with solvents as well as with ink. Benzene and kerosene were used for washing rollers, ink distributors, and fountains in the pressroom when pressman and assistant alike were exposed to their poisoning effects through constant handling. "Ink poisoning", a skin disease, among pressroom workers was due to the use of benzene for removing ink from the skin.

Eczema of compositors and pressmen is caused by the action on the skin of various alkalis and solvents used to clean type and presses. They consist of turpentine, xylene, benzol, toluene, petroleum distillates and alkali cleansers such as solutions of soda ash and tri-sodium phosphate. Schwartz and Tulipan state there are no such hazards to the compositor in machine composing. However, pressmen working on small presses often come in contact with printing inks, etc.

In recent years chrome reproduction was found to favor the development of eczemas in printers. Typical are round or oval ulcerations of the skin, little holes with red and thickened edges. There is no pain in the beginning, but the ulceration may increase rapidly.

In Great Britain, 7 per cent of the printers had skin trouble, due probably to chromic acid or chromium compounds used during transferring and in lithographic printing. Paraffine and turpentine were also held responsible as well as zinc mordants, chrome salts and other substances used in engraving.

R. G. Patterson, Director Technical Bureau, International Photo Engravers' Union of North America, believes that the rate of incidence of chromium lesions (bichromate dermatitis) has never been high in America. For prevention he recommends first, thoroughly washing all affected areas with a good grade soap. Second, swab the area with 3% hydrogen peroxide, to clean organic matter. When dry swab on a 5% water solution of sodium penta-thionate for 1 min. If the area appears dry, rub in either olive oil or lanolin. This is best done after working hours due to the greasiness of the lubricants. He recommends rightly to consult a physician prior to the use of sodium thionate.

Some materials may be harmful to many printers who come in touch with it, or they may be harmful only to one or several printers who are sensitive (allergic) to this particular material. In most cases, no untoward effects can be expected from the use of gum arabic. Still some cases of allergy to gum arabicum in pressmen have been reported, in form of either asthma or dermatitis.

Prevention of Skin Disease

Dr. Neal, in his recommendations to avoid skin disease in printing, advised

first that a complete pre-employment examination should be made by a physician who is aware of the occupational hazards to the skin. Periodical examination should be carried out, particular attention being paid to the evidence of skin diseases. If an eczema of any plant employee is found, it should be carefully investigated and properly treated by the physician.

The workers who are handling cleaning fluids should, whenever possible, be required to wear rubber gloves with the sleeves buttoned down over the gloves in order to prevent the skin-irritant chemicals from getting inside the gloves. Such rubber gloves should be made of synthetic rubber which, as experience has shown, is not easily affected by the volatile solvents. Clean towels and clean aprons should be furnished to the workers daily.

Some method should be instituted whereby each worker uses oil and cheesecloth that is not used by anyone else. No abrasive cleaning agents and no strong alkalis should be used—only a good grade of liquid soap.

Shower baths and wash rooms should be kept clean and scrubbed daily with soap and hot water. Separate lockers for work clothes and street clothes should be furnished to prevent soiling the street clothes with the various inks and other substances capable of producing skin diseases.

In lithography, the principal skin irritants are the ammonium and potassium bichromates which are used to sensitize the metal plates. Hypersensitive workers may well develop skin trouble from solvents and cleaners such as benzene and turpentine, as well as from the silver salts, cyanides, developers, glues, pastes and inks. Acid burns, on the other hand, are not as common as would be expected. A skin test (patch test) may help to discover the skin-irritating material.

Hold the Moisture or Re-introduce It — Is It Possible?

AT AN informal meeting of several printing executives not too long ago it was concluded that the retainment or restoration of moisture in paper after it has passed through the ink drying ovens in publication printing is a major problem.

Undoubtedly, one of the greatest advancements made in letterpress printing in the past 50 years has been that of the heat-set process in volume printing. The heat-set process permits two-side printing from roll stock at high press speeds. Formerly, this printing was done on sheets with the employment of oxidizing inks and the second side was processed at least 24 hours after the first impression on slow speed equipment.

Not only does the heat-set process permit printing from rolls on high speed rotary equipment but it also permits delivery of folded signatures. Even in four colors quality is comparable to good sheet-fed printing and at lower cost.

One inherent disadvantage in heat-set printing has not been conquered. This statement is made without knowledge as to whether or not much research on the subject has been done. This is the matter of so much moisture being driven out of the paper stock as the web travels through the driers.

After passing through the driers the stock contains too little moisture and is now brittle. There would be considerable advantage if a means could be found either to keep from driving out so much moisture or to restore some of the moisture which has been eliminated from the paper.

It would appear at first thought that paper of higher than usual moisture content could be used. But this idea may not be practical. The additional moisture would make the paper too costly. More importantly, machine coated paper (forming the largest classification of papers processed by this method) will blister in going through the driers if too much moisture is present in the paper.

Application of less temperature in drying would, of course, be helpful. From one source, we are told printing ink manufacturers have not been able to formulate heat-set inks that will dry properly at temperatures much below 370 deg. F. and still retain enough press stability to make their use practical. The inkmakers may come up later with something that will give the required press stability at far lower temperatures and thus overcome the problem in that fashion.

Presently it seems one solution would be a method whereby a sizable portion of the lost moisture could be reintroduced into the stock after it has passed through both driers.

In one plant a steam line with a row of jets lying next to the web was tried. This method did little good. A row of spray nozzles, approx. 4 in. apart, across the width of the web for spraying vaporized water on the web was then rigged up. Even after adding a wetting agent to the water, only a small percentage of the evaporated water at best could be restored.

Others may have worked out something better for retaining original moisture or restoring it to the stock after printing. If not, perhaps the problem could be investigated by individual companies through sponsorship or with the encouragement of the Research and Engineering Council.

Research *has brought many innovations to Graphic Arts industries — Many developments are applicable to the packaging field.*

By J. HOMER WINKLER*

**Technical Advisor, Battelle Memorial Institute, Columbus, O.—Excerpts from address delivered before Packaging Conference of American Management Assoc., Chicago, April 1953.*

PRIOR to World War II, the Graphic Arts industries, with a few exceptions, were not research-minded. It was thought that research and engineering had no part in printing processes or printing operations. The production miracles achieved by American industry during World War II were the result of an increased use of research methods and applied engineering. This evidence was conclusive in persuading many segments of the printing and publishing industries to do likewise.

An increasing number of supply companies, equipment manufacturers, and Graphic Arts producers have instituted a research division or an engineering department, and many have both. Today, there are few large companies in the printing industries that do not have technically trained personnel in their production and development departments.

The expanding support of research activities concerned with the Graphic Arts is even more encouraging. Although, the amount of money being made available by the industry for research studies is still woefully inadequate, a good start has been made. The idea of simply trying the addition of one thing or another in varying amounts to make an ink work, or to obtain a better roller, as examples, is no longer a satisfactory approach to the solution of problems in printing. The fundamentals involved in a given problem now are being attacked with scientific research methods. The application of scientific principles and laws is being made with the latest and best laboratory equipment and techniques. Under this barrage of research know-how, many of the problems have been ingeniously solved and others are slowly yielding.

In-Line Equipment

A most important trend in printing production for the packaging industries

has been the rapid utilization of in-line equipment. The advantages of a production line type of operation are obvious. A single continuous pass of stock from a roll through a series of in-line machines has stimulated the mechanical ingenuity of box makers. Operations, such as printing, sheeting, creasing, die cutting, stripping, embossing, bronzing, and folding, are performed in various sequential combinations.

On the web-fed Bobst press, four colors are printed on a die-cut, stripped sheet in quick succession within a web length of about four feet. Two of the printing units supply the letterpress process, and two of them print from a rubber offset blanket. The printing from the rubber blanket permits good coverage over the die cuts and creases.

In-line equipment has been developed and is being manufactured by the Champlain Company, Inc., Miehle Printing Press and Mfg. Co., Mercury Engineering Co., the E. G. Staude Div. of Sperry Corporation, Hudson-Sharpe Machine Co., and others.

The possibilities of printing by two or more processes on a given box are exciting. The number of operations involved in package printing and the variety of combinations possible for their use will lead to a more extensive utilization of in-line equipment.

Photoengraving

The use of magnesium as a photoengraving metal is increasing throughout the industry. Magnesium has the specific advantages of lightness in weight, rapid etching, good service as a molding pattern, and outwears copper and zinc photoengravings in printing. It is possible to retain excellent detail in magnesium photoengravings. Magnesium is difficult to solder and requires protection against corrosion during long periods of storage.

Color scanners have been developed by Time, Inc., and by the International Printing Ink Div. of Interchemical Corporation. The IPI machine was purchased and further improved by the Radio Corporation of America and is now being manufactured and sold by RCA. The Time, Inc., machine is being marketed through the Scanner Div., Printing Developments, Inc. These remarkable machines will make a set of color-separated transparencies from a full-color copy in a fraction of the time ordinarily required. Subsequent plates made from these transparencies require less than half as much color and density correction as compared with customary procedures. The products of the color scanners can be used in making plates or cylinders for printing by letterpress offset-lith, or gravure.

Kodak Photo-Resist

The Eastman Kodak Co. has developed a new photoresist after an extensive research study. It is marketed as Kodak Photo-Resist, and at present, it is available in limited supply. This item gives promise of being a significant help to the photoengraving industry. It may replace the currently used hot and cold tops. The Kodak Photo-Resist can be coated on a metal surface and stored away from light for as long as two years without having its photosensitivity seriously affected. Presensitized photoengraving metals may become a reality because of this feature. The resist is not affected by moisture or by heat and develops sharply with an organic developer. It is said to be tough and yet not brittle. The new resist can also be used in offset platemaking on ungrained metal. Test runs have indicated a press life of such plates to be about equal to deep-etch offset plates.

Electrotype Developments

The electrotype industry has made energetic efforts to satisfy consumer demand for perfect electrotypes. A number of recent developments have resulted in appreciable improvement in the printing quality of electrotypes. The continued increase in the application of the PPR plastic molding is quite noticeable. A number of improved techniques have resulted and have contributed to improve quality of plates and service.

The centrifugal-casting process for backing curved electrotype shells has received a generous acceptance. It provides a sound means for avoiding the stretch encountered in curving flat electrotypes. The Westcott & Thomson Vacuum Curved Casting Method has yielded accurate register and printing value in electrotypes.

(Continued on Page 66)

View of type washing machine in plant of Vail Ballou Press, Binghamton, N. Y. Type is cleaned thoroughly by machine to remove ink and greasy substances. When madeup type reaches electrotype foundry it is clean.

Type Washer

By J. D. Vail*

**Treasurer, Vail Ballou Press, Binghamton, N. Y.*

IN A BOOK manufacturing plant it is necessary that the face of type matter be thoroughly cleaned of ink or other transferable material before sending the type to the foundry. In other words, the type from which the molding is done must be scrupulously clean to avoid fouling the mold. There are a considerable number of galleys of type produced in a plant of this type. Cleaning the type by hand isn't too practical. For this reason, our plant machinists some time ago designed and built a machine for cleaning type matter on galleys.

The type in the galley to be placed in the machine is locked with a steel spring and wooden block. The galley is then placed on a horizontal endless chain at one end of the machine. The chain is constantly in motion. A crosswise cleat attached to the chain at spaced distances pushes the galley ahead and under the cleaning chamber at a speed of 12 ft. per min.

As the galley passes into the cleaning chamber the type is engaged by motor driven cleaning brushes which revolve in a horizontal position. The three brushes are of the ordinary wooden backed scrubbing type, 3 in. by 8 in. fastened radially to the underside of the driven disk. The brushes revolve at 260 r.p.m.

While the galley is passing under the revolving brushes a cleaning fluid (Socony-Vacuum Solvent No. B-54) flows from a pipe in a small stream into the brushes. The solvent is contained within a 5 gal. can which can be seen at the lower left part of the illustration. The 5 gal. container is connected to a pump which feeds the cleaning fluid through a pipe. The used fluid drains through a hole in the bed of the machine and is returned by gravity through a filter to the same 5 gal. container.

Drying of the type after cleaning is by evaporation. The machine is driven by a 1 h.p. motor through a belt and gears.

The machine at the delivery end is fitted with a limit switch to stop the chain conveyor if the galley which has just been cleaned is not removed promptly.

The motor, all switches and electrical connections are of the explosion proof type.

An exhaust hood is positioned over the machine to withdraw fumes from the cleaning fluid.

Length of the machine is 9 ft. 12 in., by 35 in. wide, by 42 in. high.

Fig. 1.

Fig. 2.

Band Tool Used in Book Production

THE use of modern band machines in the printing and bookbinding industries has increased greatly in recent years. Western Printing and Lithographing Co., Racine, Wis., is one of the plants employing this process for final trim work.

A DoALL Zephyr 16 in. band machine is used for sawing paper-covered books. As shown in Fig. 1, the 5¾ in. by ⅜ in. by 8 in. books of clay paper are bound two books long and cut in stacks 12 books high. The production rate is 13 stacks of 12 books per min., or 18,700 books per hr. The books are fed by a specially designed pusher-type device to the saw blade and across the machine table for rapid transfer to the conveyor leading to the trimmer, as shown in Fig. 2.

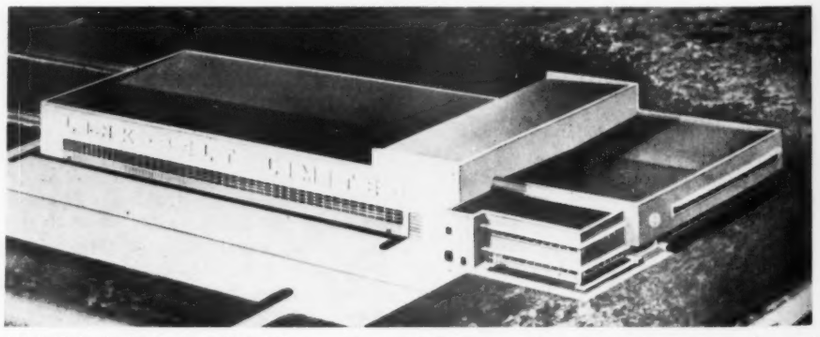
Originally, there was a disturbing dust condition, but this was overcome by the installation of a special blade lubricating attachment. This device consists of two vaporizing jets directed toward the sides of the blade at a point where the blade enters the cut. Usually, a pint of oil is used per 8 hr. day. As a result, the setup affords sanitary working conditions, blade life is at least doubled, and one operator can be released for other work.

Steps were taken to coordinate production efficiency with optimum blade life. Paper, like any other nonmetal material, varies in abrasiveness, density and other characteristics. Clay paper, especially, not only is highly abrasive but the heat generated in sawing tends to melt the binding glue and cause the teeth to load. Furthermore, the sawing of paper requires velocities ranging from 4000 to 7000 f.p.m., but lower velocities often are necessary to prolong blade life. The correct type of blade to use for a specific job is dependent upon the composition of the paper and the nature of the cut. However, for all book sawing applications and depending on height of stack, a ¾ in., 3 pitch or ½ in., 4 pitch claw tooth band is said to give the highest production rate consistent with tool life.

Because the claw tooth blade is a recent development, the unusual combination of characteristics responsible for its performance will be described briefly. Made by a special process, this new band differs from other types in that (1) The teeth have a positive rake—more acute cutting angle than 90 deg. and (2) The teeth are hardened and the band back is flexible. The positive rake gives the teeth a hooked or claw-like characteristic to actually pull into the material being sawed. It is claimed this facilitates tooth penetration, and affords free cutting action with less feed pressure required. Because the teeth are extremely hard, they retain their cutting edge and set for extended periods of time. Another properties claimed are that the coarse tooth design provides rapid chip removal, constantly cool cutting action and substantially increased tooth rigidity. The claw tooth blade involves no maintenance costs, it's life equals that of a spring-tempered blade resharpened from four to seven times.

Band machines production can be accelerated by providing wooden trough setup to feed stacks to the saw for accuracy and squareness. A table insert guide is available as such an accessory. This device fits into the filler-plate of the machine table, guides the work directly to the point of cut and prevents the blade from loading even when the saw teeth become dull. Such devices cost little and are ideal for short runs since a minimum of 5000 books per hr. can be cut.

Although Western Printing uses a 16 in. Zephyr, many binderies find it advantageous to use a 36 in. machine of this type. This latter band machine, of course, has greater power, 35¼ in. throat with 20 in. thickness capacity under the saw guides. Main work table is 30 in. by 36 in. with slot for convenience in mounting accessories. Auxiliary table is 19 in. by 19 in. Because it is highly important that the correct blade velocity be used to cut any type of material efficiently, the machine is designed to provide a choice of variable speed ranges.



Link-Belt Builds Canadian Plant — The 72,000 sq. ft. plant located on a 20 A. tract shown above belongs to Link-Belt Ltd. Its construction was completed recently at Scarboro, Ont., Can., where the company will manufacture conveying and processing equipment. It will also serve as headquarters for Link-Belt Ltd., including facilities for general offices, engineering, purchasing, order, accounting and Ontario district sales. The plant is situated 10 miles northeast of downtown Toronto.

Dallas Convention Offers Craftsmen Clinic Programs

SEPARATE clinics devoted to screen process printing, air conditioning in the printing plant and other important technical sessions are expected to attract a goodly number of printing plant executives to the Intl. Craftsmen's Convention. The annual meeting of the Association is scheduled for September 13 to 16 at the Hotel Adolphus, Dallas, Tex. Speaking on *Screen Process Printing's Position in the Graphic Arts*, John M. Key, President of Admiral Screen-print Corp., Chicago, will outline the basic principles of the process, what it is, how it works, its origin and evolution, and its comparison with other printing methods.

Screen process printing will be explained to Craftsmen by John M. Key, President, Admiral Screenprint Corp., Chicago. Key is also a past president of Screen Process Printing Assoc., Intl.

Of particular interest to Craftsmen will be that part of Key's talk dealing with installing silk screen process printing in already established printing plants. Trade services rendered by existing job shops will also be discussed.

A feature of this program will be an actual demonstration of screen process printing to be staged by Paul M. Evans of Evans Printing & Poster Co., Dallas, Tex. The demonstration will include preparation of the stencil, application of stencil to silk, makeready and printing. The methods Evans will use will be only one of the ways to arrive at a finished job but will show the basic fundamentals of screen process printing.

Dr. Paul J. Hartsuch, Lithographic Consultant, Interchemical Corporation, will participate in the Air Conditioning Clinic at the Craftsmen's Convention.

The importance of air conditioning to printing plant operation will be emphasized by three speakers during the Craftsmen's Convention. Dr. Paul J. Hartsuch's past experience will enable him to present a first-hand picture of the benefits arising from the air conditioning of offset plants. Dr. Hartsuch is a Lithographic Counsultant for Interchemical Corporation and has also been associated in several capacities with the Lithographic Technical Foundation.

O. F. Duensing, Sales Development Mgr., Vandercook & Sons, Inc., will speak at the Dallas Craftsmen's Convention on Minimum Makeready Through Precision Form Preparation. Duensing's talk will be a critical, yet constructive, analysis of the outmoded methods and materials in use today in most letterpress plants and he will explain why they are responsible for many of the problems confronting letterpress printing. He will also show how unstable mounting material is costing printers excessive expense in makeready.

The How's and Why's of Air Conditioning is to be the title of a talk given by R. A. Gonzalez, Manager of the Application Engineering Dept., Airtemp Div., Chrysler Corp. Gonzalez will tell of localized climatic considerations, winter humidifying added to existing heating systems, summer cooling added to existing printing establishments and complete year around temperature and humidity control systems for printing plants. The third speaker, M. W. Brown of American Blower Co., will address the Convention on *Air Conditioning and the Graphic Arts*.

Chairman of the Letterpress Plate Clinic at the 34th Annual Craftsmen's Convention will be Lee Augustine, Intl. Representative at Large. Augustine is also Vice Pres. of Printing Machinery Co.

The Composing Room Management Clinic under the direction of Howard N. King, Intl. First Vice Pres., promises to be another outstanding meeting. A panel composed of Graphic Arts executives will participate in a question and answer period on composing room problems.

Panel members will include the following: Frank M. Sherman, Executive Secretary, Intl. Typographic Composition Assoc.; Charles J. Felten, author of *Layout in Advertising and Printing*; Oscar Hoffman, President, Superior Typesetting Co., St. Louis; Alfred Hoflund, President, Hoflund-Schmidt Typographic Service, Denver, Colo.; Walter Schultz, General Supt., Farm and Ranch Pub. Co., Nashville, Tenn., and also Intl. Past President; and Ed Bachorz, Composing Room Supt., Western Printing and Litho Co., Racine, Wis. An address on *The Impact of Photographic Type Composition on the Graphic Arts* by Mr. Sherman will precede the discussion period.

It is planned to vary the educational program of this year's Craftsmen's Convention to suit the tastes and accommodate the needs of all printing plant executives. Other clinics will be on Letterpress Plates, Offset Printing, Makeready and Pre-makeready and Profitable Small Shop Operation. Suitable time will also be allocated for the usual Craftsmen business and discussions on various phases of Craftsmen activities.

Demonstration of Phototypesetting

An exhibit of photographic type composing machines will be held in connection with the convention of the Intl. Typographic Composition Assoc., Mayflower Hotel, Washington, D. C.

Shown in actual operation will be the Monophoto Machine (Lanston Monotype Machine Co.), and Photon (Graphic Arts Research Foundation). The Fotosetter (Intertype Corporation) will be demonstrated by a series of illuminated panels. A sound picture of Fotosetter operation will be shown at the Friday morning (Sept. 4) convention program session.

The convention will be held on Sept. 2, 3, 4, 5. On Wednesday, Sept. 2, from 1 o'clock til 9 p.m., the day has been assigned to ITCA members exclusively and those who register for the convention. It has been announced that this policy is mandatory because of limitations of space. Thus the exhibit will be confined to those having an occupational rather than an academic interest in photographic composition. Admission will be by ticket only. Tickets of admission can be secured by writing Frank M. Sherman, Exec. Secy., ITCA, 1015 Chestnut St., Philadelphia 7.

Texas Branch Moved

Herbert A. Asten, Southwestern Branch Manager, announces new headquarters for Harris-Seybold equipment and service, supplies and allied products, at 1808 Hi-Line Drive, Dallas 7, Tex. Phone number is RAndolph 8785.

Please take a look at your address on the wrapper in which *Printing Equipment Engineer* is sent to you at your place of employment. If it isn't correct, please tell us about it on a postcard.

The ABC of OFFSET

For Letterpress Printers

Series Two

By George Jos. Lenzer

XIII–COLOR CORRECTION

A SUDDEN switch from the discussion of stripping to one on color correction may seem to be goofy and inconsistent, but, if we read the last paragraph of Chap. XII we learn that the stripper must perform some of his duties as a followup to the color correction and dot etching operations.

Since the stripping of color and black-and-white are similar operations, it is felt that they should be discussed under a single heading and as a prelude to the platemaking operations.

Too, discussion of color correction is an orderly approach to sequential operations in relation to straight line production plans and post camera operations. Work performed in the color or art department moves progressively in more than one direction, frequently backtracking upon itself.

Why Color Correction?

Erroneous and faulty is the generally accepted belief that precision cameras, color corrected lenses, filters, color sensitive plates, films, scanning machines, etc., will eliminate the unnecessary operation of color correction.

Too many misinformed buyers and producers of offset are staunch adherents to the foregoing belief and as a consequence, an absolute necessity for color correction is established. Some cases in point traced to the misinformed gentry are as follows:

Case No. 1: "This is what we want, only different".

A client submits as copy a poorly executed water color duplication of another design on a varnished decalcomania which had been printed in 12 colored inks. The decal, attached to the sketch is indicated by an arrow and the notation: "Follow this for color and detail". Additional instructions are: "All evidence of sloppiness, brush strokes and lumpy pigment must be eliminated from the reproduction, and only four colors are permitted to effect the facsimile reproduction of the decal which must appear in three different sizes."

Comment: Even with the finest and most modern precision equipment and materials, the foregoing demands and requirements cannot be met without corrective manipulation, somewhere along the line. This costs money, yet the client expects everything demanded at no extra cost to his client.

Case No. 2: "Three for six".

An agent submits as copy a lithographed metal sign, printed in halftone in six colors: two reds, two blues, a black and a gray. Haughtily thumping his chest he exclaims: "I know all about color. You can't kid me. Any coloring effect can be achieved in three colors. That's all you are allowed to reproduce in this job, and it must be a facsimile reproduction".

Comment: It will be noted that no mention is made of the halftone factor existing in the copy. This difficulty had to be overcome before the job was put into production through the preparation of reproduction sketches. In addition to which many hours of manipulation and two proofings were required before the job was grundgingly accepted by the client.

Case No. 3: "Two For The Diner".

At great expense, an American railroad purchased six water color paintings depicting certain scenic spots along its route. The artist used practically every color in the book in executing his creations, which were to serve as menu covers for the dining cars.

An estimated five color requirement for the reproductions was rejected by the agency representative who proclaimed: "Yellow and red make orange and yellow and blue make green. By overprinting yellow, red and blue, a jet black results. I also know that filters will enable the camera to separate the yellow from the orange and the green. Since orange and green are results of the primary colors and are complementaries, you will have to make the reproductions in those two colors only."

Comment: Such fallacious and opinionated thinking is common across the country and resists all argument and scientific proof to the contrary. After many man hours of experimenting, manipulation and three proofings an acceptable job was produced, but not the facsimile reproduction of the paintings expected by the Agency.

Case No. 4: "Eat cake and have it too".

A photographic color transparency showing a well stocked refrigerator is submitted as copy for reproduction. Simple as the foregoing statement is, the client, in effect, wants to eat his cake and have it too.

He says: "This transparency is what we want reproduced, but we want the mottled effect in the background eliminated and thrown out of focus so as to be less prominent. The refrigerator is not what we wanted. It's too tall and narrow. We don't have time to have it re-photographed, so we want you to distort it. Make it appear wider and less tall without destroying its identity, yet without any distortion to the contents. Eliminate the bluish overtones and make the appliance a glistening white. We're already a month behind in getting this material out, so step on it and make delivery within two days".

Comment: The gist of the foregoing is no exaggeration. It is true in every respect. Even though there is no exception to the number of colors required to make the reproduction, it is evident that all of the other requirements cannot be accomplished without some means of correction and manipulation. Solving such problems is what makes color such an interesting phase in offset reproduction.

Other Reasons

Why color correction is an essential operation can be attributed to the following factors:

1. Imperfect preparation of reproduction copy.
2. Imperfections in color pigments, paints, inks, etc.
3. Imperfections in light and lighting.
4. Imperfections in the human element, judgement and functions.
5. Imperfections in mechanical operations and procedures.
6. Lack of uniformity in standardized materials and supplies.
7. Lack of controls, *i.e.,* air conditioning, humidity, etc.
8. Failure to visualize operational procedures in effecting correct photomechanical reproductions.
9. Lack of knowledge of the industry by producers, buyers and users of offset.
10. Inconsistency in the training of apprentices and operative mechanics.

These factors have been partly treated in earlier discussions of the fundamentals of offset as an industry. They are given now to provide a better understanding and appreciation of the need for color correction and corrective measures.

What Is Color Correction?

Color correction is that post camera operation whereby the physical appearance of a photographic image, negative or positive, is altered or changed to conform to specific needs and requirements, conducive to more perfect reproductions.

Certain areas of the negative or positive transparency may be rendered more or less transparent while other selected areas may be rendered more or less opaque in order to effect the changes and

alterations necessary to overcome the aforementioned imperfections.

About Color Balance

It will be remembered that because of the nature of the photographic materials, emulsions, filters and lighting, the resulting photographic negative or positive images are not always in true balance with the colored original copy. These images must be altered to effect the required color balance.

In the negative, more color is added by chemical reduction (called additive reduction). Color values are reduced by manual and chemical manipulation (called subtractive intensification). With the positive, color values are decreased by subtractive reduction and color values are increased by additive intensification.

With this brief summary of the why and what of color correction as a basis, let's get into the mechanics and techniques of this interesting and diversified phase of color correction and dot etching.

Continuous Tone

A set of separation negatives may be produced on either matte or regular type photographic plates or films. These are delivered to the color artist or correctionist, for his comparison with the original copy.

The matte type plate or film, after photographic processing, presents a fine grained working surface on the emulsion side as compared to the hard, smooth coating on the regular type plate or film.

Corrective techniques vary with the different emulsion coatings and are frequently referred to as negative retouching.

Choice of the type of photographic film or plate is most often determined by company policy and prescribed procedural acceptance. Some plants prefer the matte type over the regular or smooth type plate because of the textured grain of the emulsion. This type of plate provides a greater latitude in re-touching operations. It accepts pencilling well. The tooth of the grain permits ease of application of powdered graphite and lampblack as well as air brushed pigments, ink and stains.

The regular or smooth surfaced type plate is preferred wherever masking processes are a matter of policy. They are also preferred in plants where retouching is performed by the staining process.

This matter of color correcting continuous tone negatives can be broken down into three separate processes, *i.e.*, pencilling, staining and masking.

Which process is the best to follow is difficult to say, because each has its own peculiar advantages. By the same token it has its disadvantages. Where one offers greater speed of accomplishment at a sacrifice to quality, another offers greater fidelity to detail while sacrificing speed of production.

Once a certain procedure has been established as a matter of policy with a company, it becomes so much a part of the organization that any effort to introduce a different method is a difficult thing indeed, because the accepted procedure becomes a traditional paragon by which all other methods are judged.

About the Processes

Pencilling and Stumping—This method of retouching is a carryover from the days of the wet plate process, when all corrections in the negative or positive were accomplished on a ground glass. The tooth and grain of the ground glass is simulated by the toothed grain of the matte finished photographic dry plate.

The judicious application of graphite, powder or pencil, tends to blend into the tonal gradations of the silver image, when the applied graphite is smoothed out by means of an artist's paper stump. This manual manipulation adds density to the continuous tone image without rendering the image completely opaque.

For still greater density of the retouched areas, certain pigments, inks and water colors are applied by means of the air brush. Rendering complete opacity in certain areas is accomplished by the application of liquid opaque water color compound by means of artist's red sable brushes, pens and drawing instruments.

To increase the transparency of certain areas of the continuous tone image, surrounding areas may be protected by an applied staging solution or chemical resist, after which the chemical reducer is applied either locally or in a tray. Following the chemical reduction, the resist is removed by means of a suitable solvent.

In other instances, transparency can be increased by means of an air eraser and use of a fine powdered abrasive.

Staining—This is a widely used, yet strangely enough, is a little understood process, (in the industry, that is). The underlying theory or basis for use of stain is the same as that employed in the production of color light filters, that is "The withholding or elimination of certain rays of incident light".

Stain in photographic reproduction was also the basis for the development of Microtonics' fluorescent process lighting and of many others. The strange thing is that most cameramen and artists don't know what it's all about, much less why.

Many cameramen know when to use a red safelight in the darkroom, yet don't know and cannot teach the artist or tell him why he should not use red dye or stain in retouching negatives for certain kinds of photographic reproduction.

And many an operator using black stain doesn't always know where he had left off after a brief absence from the job. Some have been known to re-apply stain to areas adequately stained the day before, thus ruining an otherwise good job.

In this process chemical manipulation is performed on the regular smooth surfaced dry plate in the same manner as that employed when processing matte plates.

Whatever stain is used in this operation is applied by red sable artist's brushes, cotton swabs and dye baths.

Masking—By this method of color correction, manual re-touching is in most instances reduced to a minimum. Color correction is accomplished by photographic means and the contacting or combination of negatives and positives. A negative of one separated color is combined with a positive image from a negative of another separated color. When combined and superimposed emulsion to emulsion, the positive will cancel out the color it represents from the negative of the other color.

It must be remembered that both the negative and positive are transparencies, and when properly combined serve as transparency copy for the photographing of halftone positives.

(*To Be Continued*)

BOOKS

Preparation of Art Work for Color Rotogravure

THE first of a projected series of reports on color rotogravure has been issued by the Joint ANPA-AAAA Committee on Newspaper Printing called *Preparation of Art Work for Color Rotogravure*. Referred to as Report No. 5, it is intended to bring the man who prepares roto color copy closer to the one who must print it.

The 24 pages of the report contains a number of recommendations submitted by the Joint Committee to make for better reproduction of colorgravure advertising, benefiting advertisers, advertising agencies, newspapers and colorgravure printers. The information was gathered from personal experiences by Committee members, studies of available literature on the subject and consultations with publishers and printers of colorgravure.

Different chapters deal with What is good copy for colorgravure?; Preparation and selection of art; What art mediums reproduce best?; Two color art; Type, line work and color break-up; and Monotone gravure. Under these headings can be found recommendations for tones, backgrounds, small illustrations, matching copy, pastel shades, colored photographs, wash drawings, positives, layouts, etc.

The committee is composed of advertising production executives appointed by the American Assoc. of Advertising Agencies and mechanical executives chosen by the American Newspaper Publishers Assoc. ANPA members are as follows: Ben Dalgin, New York *Times*; Cliff Murray, Philadelphia *Inquirer*; W. H. James, New York *News*; M. George Martin, Louisville *Courier-Journal and Times*; Harry Sloan, New York *Mirror*; and Vernon R. Spitaleri, ANPA Mechanical Dept. AAAA members are as follows: George B. Dearnley, McCann-Erickson, Inc., New York; Ernest Donohue, Batten, Barton, Durstine & Osborn, Inc., New York; Erwin Miessler, Needham, Louis & Brorby, Inc., Chicago; Eli Gordon, J. Walter Thompson Co., New York; John F. Aldinger (Alternate),

(*Continued on Page 52*)

Saving Time and Money In the Composing Room

By Al Tennyson*

**Composing Room Supt., Los Angeles (Calif.) Times and Mirror.*

MORE and more we read that the percentage gap between the red and black ink is growing dangerously narrow in the publishing of newspapers. Costs are staggering, with one of the most expensive items being the composing room. Due to its various ramifications it is perhaps the most difficult to operate with precision, not to mention rigid economy.

Publishers are naturally looking for more economical methods without lowering the standard of their product. Several methods are now in the making but so far they have proved to be just another way and with questionable results. So far as the composing room is concerned, I believe great savings can be made now by careful study of your individual operation and problems.

Newspapers wield such great influence in our national well being that none should be permitted to fall by the wayside in these days of uncertainties. Freely and humbly are offered a few suggestions that might help to fortify some position that now might be near the crumbling stage.

I am superintendent of a metropolitan composing room in which the forms for two daily newspapers are set. Our weekly average of standard sized pages published is in excess of 700, with Christmas peaks approaching 800. On the evening paper we have five editions daily while on the morning paper there are five editions.

Our composing room is square in shape and is fluorescent lighted except for the machine keyboards. It is air-conditioned. The floor is hardwood blocks on end, with Celotex ceiling for deadening sound. With our 64 machines all going it is little noisier than the average size or eight machine shop. The floor space is in excess of 22,000 sq. ft.

Space would not permit detailing all that we have done to meet our needs and save time. Our operation is generally very smooth, yet it is a long way from perfect.

We were fortunate, however, in that we were given a chance to study other operations. Seldom do you find two composing rooms functioning near enough in detail to permit outright copying, yet basically and fundamentally they all have much in common. The physical shape of a department can be a real help or a genuine hindrance. Square shapes are helpful in the larger operation, while rectangles will aid the smaller one.

Too often the proofroom is the bugaboo that will wreck the production flow in the metropolitan field. We put ours on stilts above the nerve center of operation and feed by conveyors.

Being able to observe other operations will invariably cause crystalization of latent ideas. Careful study will determine that which will be profitable for your

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1.—Swing Leaf Metal Book for Proofs—The hinged sheet steel leaves (20 ga.) of this book are mounted vertically on one of the building columns. Each leaf measures 24 in. wide by 24 in. high. There is a leaf for each day of the week plus Future and Hold-for Order proofs. The Los Angeles *Times* and *Mirror* of course is a dual operation. The leaves for each daily paper are painted in different color. Three spindsles or stabbers are fastened to the top of each leaf spaced so that all 1 col. proofs may be hung near the outer edge of the leaf. The 2 col. proofs hang near the middle of the leaf. All 3 col. and wider proofs hang in the fold. All proofs above 3 col. are folded once. On the reverse side of each leaf spring clips are fastened. These are used to hold the layouts of ads for which cuts are yet to come. This filing device centralizes temporary storage of proofs and conserves an untold amount of time as will be appreciated by all composing room executives.

2.—String Instantly Available—The brackets attached to the sound-proofed ceiling each support a cone bobbin of string. The string is used in tying advertisements. They are positioned over the makeup trucks. If the necessity should arise, ball string can be placed in the peanut butter glass jar containers fastened at the bottom of the brackets.

3.—Ad Alley-Proof Room Conveyor—In this illustration is shown the double belt conveyor which delivers proofs to and from the proof room and the ad foreman's desk. Proof room is fed by farther terminal which is above the proof presses. In the picture, the upper double belt brings proofs to the proof room while the lower double belt is used for sending proofs to the ad foreman.

4.—Edition Page Schedule Signal Board—This board is employed to inform editors, composing room superintendent and the makeup department just how many page forms have been sent from the makeup to the stereotype department. There is a similar board in the stereotype room. The system is dual controlled. The board measures 40 in. wide by 8⅓ ft. high It is mounted in a sufficiently elevated position to make visibility easy. An electric clock showing the hour and minute is positioned at the top. Toggle switches at the bottom of the board are used to turn the lights on and off manually. The stereotype department turns off the bottom half only when the mat has been molded. On the upper half of the board the lights are turned off when the page form is turned over to the molder.

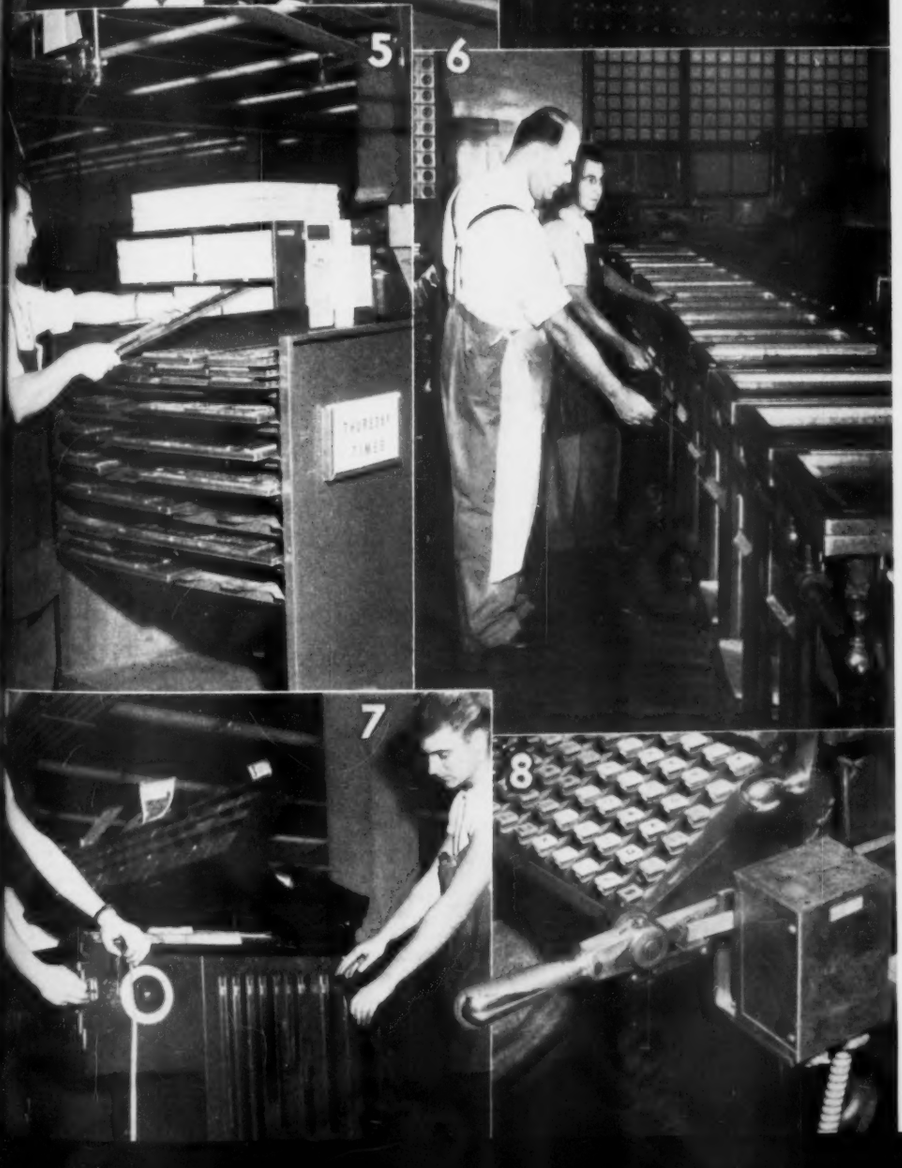
The abbreviation "PART." means a section for one edition. Occasionally there are extra picture pages which are folioed A and B. Other letters on the board are explained as follows: S is for Special. E is for Extra. R is for Replate. M is for Makeover. Any time a page falls in the above categories, the letter on the board is lighted along with the page numbers. The visual control is designed to avoid error.

5.—Mobile Makeup or Turn-in Galley Truck—This rolling truck with seven shelves eliminates many miles of steps and one extra handling of empty galleys. Type for fractional page ads on galleys may be placed directly in the truck from dump table or temporary ad storage system for transport to the makeup department. Its utility is obvious. The lower compartment enables the makeup man to deposit his empty galleys in one place for return to the ad-alley. The truck is identified as carrying ad composition for a certain day's paper by a card system on one side of the truck. The holder contains printed cards for each day in the week so that the one selected is placed at the front of the pack. The truck measures 32 in. wide, by 50 in. high, by 24 in. deep. It is of all-steel construction with angle iron reinforcement. For mobility, there are four swivel 8 in. diam. rubber tired ball bearing casters.

6.—Column Rule Containers—Each makeup truck has been fitted with a metal container, 1⅛ in. wide, by 2⅞ in. high, by 19¼ in. long for holding 48 pieces of full length column rule. The container is positioned at about 45 deg. angle. Each makeup man cuts off column rule with a diagonal slug clipper which hangs in his apron. On the lower frame of each truck is fastened a galvanized iron tray with flanged edges on three sides into which the makeup man drops discarded slugs, rule and the like. This helps to keep the floor unlittered and permits free rolling of trucks to the stereotype department.

7.—Tape Dispenser and Side Stick Rack—The Cellulose Pressure Sensitive Tape Rack attached to the end of each ad alley worktop cabinet simplifies application of the tape under engravings because the dispenser is permanently positioned. The dispensers were made in the *Time Mirror* machine shop which also made the side stick rack (at right). The rack consists of a steel plate with pegs upon which the wooden side sticks are hung. There is a hole in each end of the stick to facilitate handing up the stick. Elrod base was used previously to support ad guts and borders. The side sticks have proved to be time-savers as well as conserving the metal base. In addition, the dispenser is out of the way and does not take up space on the work tops.

8.—Interval Timer for Linecomposing Machines—This steel, case, affixed to the right side of the keyboard frame, encloses an interval timer which is cut into the motor drive and light line. It was developed by Linotype Foreman William Scheffler. It is automatically reset for continuous operation each time the operator sends in a matrix line by means of the assembling elevator lift lever. An extension on the lever handle contacts a lever attached to the timer. The timer may be set for 1½ min. intervals so that if the operator leaves the keyboard for a greater length of time the timer will automatically shut off machine motor and lights. The machine may be reactivated by raising the assembling elevator half way. The case measures 3½ in. wide, by 5 in. high by 3 in. deep. In a newspaper composing room it is necessary for the operator to travel to and from the dump and copy desk particularly in the case of ad composing machines. It can be seen that economy in electric consumption in a multiple machine plant would be considerable, and unnecessary wear of constantly rotating parts (when the machine is idling) is reduced to a minimum.



operation. And while science and inventors delve into newer methods, the foreman, sensitive to costs and with the know-how can surprise himself in what can be saved in a second here and two steps there.

Greatest Savings In Ad Alley

The greatest savings generally, can be made in the ad alley, particularly through work simplification. Here we made surveys showing relative time costs in the setting of the original copy of an ad and the subsequent author's revisions. This was an eye-opener.

We did not stand on tradition when we found a change was needed. We redesigned the display order blank (Fig. 9) to make it fully explicit and thus cut out the mind-reading; also we added one more duplicate to it to eliminate logging of ads in the composing room. This can be a great saving.

A modern ad desk was designed to simplify operation in the ad alley and to better accommodate the 1 col. ads, the 2 col. ads and the larger ads for each day of the week and the future ads.

For our second publication the only difference in the display order was it is printed on different colored paper.

The Proof Book

A large metal ad proof book was designed to expedite handling of live ad proofs. A leaf is provided for each day of the week and future ad proofs. Each leaf is fitted with three spindles at the top, spaced to allow for 1 col. proofs on the outer edge, 2 col. proofs in the middle, and larger ad proofs (folded once) in the fold. This saved much. (See Fig. 1).

Each galley of ads carried a storage slug and service lines to direct proofs into proper channels.

The String Problem

At the makeup or turn-in truck there was always a scramble for string so we fastened a cone bobbin string bracket on the ceiling. For emergency use we drilled holes in six wide-mouthed peanut butter jars, attached their tin caps permanently to the bottom of each bracket. We now have string whenever we need it right at hand. (See Fig. 2).

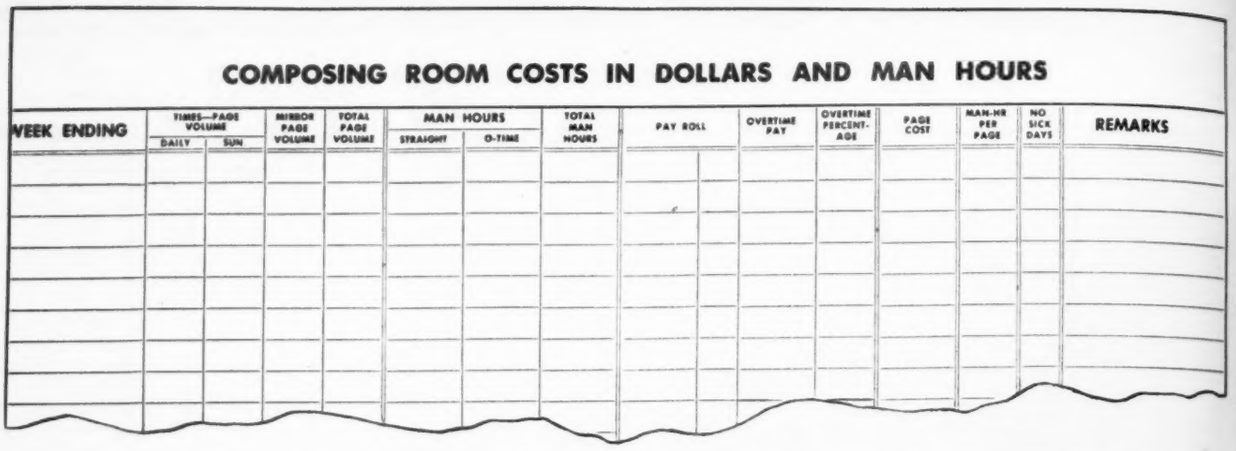
Thousands of steps daily were saved by designing mobile trucks or turn-in racks on rubber tired casters. Each rack is provided with an empty galley storage at the bottom. Thus we eliminated one complete handling of ad galleys. (See Fig. 5).

Signal lights were installed wherever they were considered useful and would lessen telephoning.

Endless and noiseless proof conveyors were installed to steady flow of production and in and out of proofroom for both news and ads.

Saw-trimmers were added in the ad row to save time and steps. One saw-trimmer serves two ad frames in most instances, while one mitering saw serves six.

In each makeup department a saw-trimmer was supplied. Each makeup truck was given a column rule supply scabbard and likewise a dump tray at the



COMPOSING ROOM COSTS IN DOLLARS AND MAN HOURS

WEEK ENDING	TIMES—PAGE VOLUME		MIRROR PAGE VOLUME	TOTAL PAGE VOLUME	MAN HOURS		TOTAL MAN HOURS	PAY ROLL		OVERTIME PAY	OVERTIME PERCENTAGE	PAGE COST	MAN-HR PER PAGE	NO SICK DAYS	REMARKS
	DAILY	SUN			STRAIGHT	O-TIME									

Fig. 9.—Miniature reproduction of blank for recording Composing Room Costs in Dollars and Man Hours. This blank is employed by Al Tennyson, Composing Room Supt., Los Angeles *Times* and *Mirror*. Mr. Tennyson's secretary assembles the information daily and following the end of the week fills in the blank. In this way, Mr. Tennyson has a weekly running comparison of costs which enables him to analyze increased or decreased costs. This is an excellent means for controlling a rather complicated operation. Original size of this blank is 11 in. wide by 7 in. deep.

bottom for dead slugs. Our floor is clean. (See Fig. 6).

Expensive Elrod material was generally used for side-sticks to support ad guts and borders while making up the ad. To eliminate this expense, we built side stick racks and applied them to the side of each ad frame; the wooden side sticks were drilled with a hole in each and (to hang on a peg of the rack) to avoid waste motion. Also on the side of each ad frame was applied a double-faced tape dispenser. These were both made in our machine shop. (See Fig. 7).

Supplies were standardized throughout the makeup department to facilitate exchange of help without lost motion.

Forgot Formal Alignment

In the Linotype news section formal alignment of machines was forgotten. Thus we again saved steps and seconds. This was done wherever possible without creating a hazard. An unforeseen advantage came out of this for now our guest tours need not leave the main aisle way to observe the three principal operations of the linecasting machines.

Team Work

The foregoing might sound like equipment and arrangement have been the trick that has lowered our unit cost. Actually, it has done only a part of it. The rest has been done by our personnel. This part is so important. The finest physical setup will never click unless there is a desire by those in key positions to make them work. Our foremen are sensitive to their full responsibilities. Our full complement works in unison as a team, a team which I am certain is second to none in the country. And this is desperate need in our land. Fairplay and teamwork results in economy every time. Too often "yes men" in key positions distort facts to the detriment of management and men alike. This does immeasurable harm.

Whether we be in a small operation or in the metropolitan field, we are dependent on someone or one another. By pulling together security becomes a sure thing and not something we endeavor to obtain by "putting on the heat" or snatching at thin air.

Finally, I believe an alert and sensitive organism, well oiled and pulling together, will substantially lower any unit cost.

ARTIST REDMAN CARICATURIZES EXECUTIVES FOR ROBERTSON AT MILWAUKEE CONFERENCE

Among the many exhibitors at the Milwaukee ANPA Mechanical Conference was Robertson Photo-Mechanix, Inc. The company demonstrated the new Shooting Star photoengraver's camera for the first time. As an added attraction, Robertson engaged the services of Lenn Redman who drew caricatures of many mechanical executives during conference days in the Robertson booth. Mechanical and/or production executives who know these men will readily agree that Artist Redman drew these likenesses in such manner that identification captions are not necessary. From left to right a number of Redman's drawings are shown.

Florian Budzynski, Composing Room Supt., St. Paul (Minn.) *Dispatch*.

H. J. Lamade, jr., Asst. Secy., Grit Pub. Co., Williamsport, Pa.

Robt. H. Smith, Mailroom Supt., Indianapolis (Ind.) *Star-News*.

Burt B. Mader, Engraving Supt., Boston's *Christian Science Monitor*.

W. B. (Bill) Sandlin, Mechanical Supt., Miami (Fla.) *Herald*.

Here's what happens . . .
. . . when Linotype **COMETS** set the news!

"One of the best investments we ever made . . ."

—De Land Sun News, De Land, Fla.

"We use our COMET exclusively for AP Teletype news and it sets all we need, usually about 12 galleys a day. Our machinist has a minimum of work to do to keep the COMET functioning. He says there are many features he likes about the COMET, particularly the new distributor clutch and assembler."

"Proved savings through increased type production . . ."

—Everett Daily Herald, Everett, Washington

"Wire service tapes and the additional speed of our two COMETS has moved up our deadline more than 30 minutes a day. By eliminating straight-matter production on mixers we've upped ad production, too. After a year, COMETS have proved to be ideally suited for tape operation."

"Our COMETS save us around $300 a week . . ."

—Durham Herald-Sun Papers, Durham, N. C.

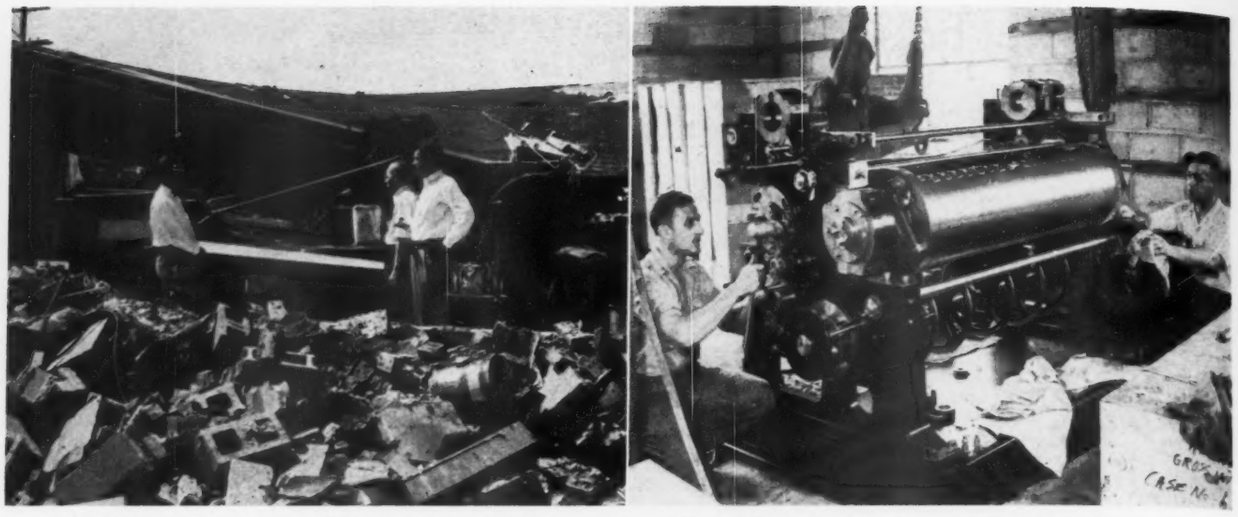
"We have 4 COMETS in TTS operation setting 9 point, 5½ point and our regular 7 point. Average daily production is 14,200 lines, all we need and want. Our deadlines have been moved up 30 minutes, time we badly needed. Our machinists like the swinging front and easy access to the reeds."

Linotype COMETS are the fastest machines ever made, the easiest to operate and maintain. Steeper magazine angle gives lightning-fast response for manual or automatic operation. Swinging front and other exclusive features simplify maintenance. No wonder COMETS are increasing profits in over 400 cities around the world. Let your Linotype Production Engineer prove what COMETS can do for you.

MERGENTHALER LINOTYPE COMPANY
29 Ryerson Street, Brooklyn 5, N. Y.

Agencies: New York, Boston, Chicago, Dallas, Atlanta, Cleveland, San Francisco, Los Angeles
In Canada: Canadian Linotype, Limited, Toronto

Set in Linotype Spartan and Corona families



High Tension Rehabilitation Work with Cooperation of Competitors and Equipment People Restores Offset Printing Plant Following Tornado

After tornado struck certain areas in Cleveland on the night of June 8, the Merrick Litho Co.'s modern building and plant equipment looked like so much rubble. Shown here are several company executives (left to right): President Frederick A. Merrick; Plant Supt. Herbert H. Johnson, and Vice Pres. and Gen. Mgr. Robert Pennington.

Shortly after tornado shattered Merrick Lithograph Co.'s plant in Cleveland, and with the roof barely up, installation of a new Harris 35 in. by 45 in. offset press is well under way. At left, George Gilmore, Harris-Seybold's service man, superintends local riggers in assembling the press. Mortar cementing new walls together in background is still damp and workmen are completing new roof.

A tornado which devastated many localities in the Midwest on June 8, also struck certain sections of Cleveland that night. One Cleveland firm, Merrick Lithograph Co., was hard hit. The two-year-old building is of substantial construction —it's a compact one story brick structure with heavy steel roof girders. The twister heaved the roof upward, a brick wall facing the tornado smashed into the plant and the rain poured in. Several employees on the night shift were injured.

That night company executives took emergency steps. The next morning they faced the grim job of reconstruction while holding the business together.

Before noon on the next morning, offers of assistance came pouring in as competitors and suppliers learned of Merrick's trouble. Practically every lithographer in Cleveland offered his spare facilities. Copifyer Lithograph Corp. was especially helpful in making Harris 35 in. by 45 in. presses available during non-running hours at Copifyer.

Several Harris-Seybold Co. executives promptly got into action. Damage to the new 35 in. by 45 in. presses was severe. Two Harris 21 in. by 28 in. presses, after being cleaned and moved to another part of the building were soon in operation. The single color 35 in. by 45 in. press was dismantled and shipped to Harris-Seybold's Rebuilding Dept. in Chicago. A new press was rushed in from the factory as contractors sped work on building repairs. Harris service men, working night and day including Saturday and Sunday, managed to repair the damaged two color press and get it into production in a week's time.

Merrick's operations now are normal.

Two Metal Feeder Pig Signal Devices

Two devices for signaling the need of metal in the metal pots of linecasting display machines have been devised by Harold C. Johnson, Chief Machinist at the Columbus (O.) *Dispatch*. One device makes use of one of General Electric's smaller limit control switches. The other is a home-made open electric contact device constructed from various odd parts, such as are usually to be found in the machinist's department. Both are designed to turn on a green light bulb mounted at the tip of the machine distributor beam indicating that metal pigs should be hung on the feeder chain hook. The green light is mounted on the distributor beam alongside the operator's red trouble signal lamp.

In answer to a question as to why he developed two signal devices for the same purpose, Mr. Johnson explained that after the first one had been installed, the second was made as an after thought. Both work satisfactorily. At the *Dispatch*, Johnson has eliminated one of the metal feeder chains so that two metal pigs may be suspended on one hook.

Fig. 1

Fig. 2

In Fig. 1 the device in which the G.-E. limit control switch is employed (No. G.-E.9440-LS415 AA) is shown. The switch body, with due regard for insulation, is fastened underneath the feeder operating housing with two screws. The switch is connected to the 110 v., a.c.,

(*Continued on Page 48*)

Patents

For The GRAPHIC ARTS

Covering patents issued May 5, 12, 19, and 26.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Composing Room:

2,638,792. MOLD DISK DRIVING MECHANISM FOR TYPOGRAPHICAL CASTING MACHINES. This drive is adapted for reducing the impact between the driving and driven bevel pinion so as to prevent severe wear and strain on these parts at high press speeds. This is accomplished by imparting initial acceleration to the driven bevel pinion before the driving gear segment comes into contact with same. Means are also included for pre-positioning the mold disk to reduce the impact between the locating block and the mold turning wheel and hence, to reduce wear. The driving mechanism includes a driving gear segment, a driven pinion, a bevelled element associated with the driven pinion and a projection carried by the driving gear for contacting bevelled element to impart initial acceleration. Invented by Paul Hilpman, Garden City, N. Y. Assigned to Mergenthaler Linotype Co., Brooklyn, N. Y. Application July 19, 1950. 6 Claims.

2,639,017. MACHINE FOR PRODUCING TYPE FACED IMPRESSIONS IN OR FOR PRINTING. A machine for producing spaced lines of type faced characters upon a receiving surface comprises a unitary support carrying a plurality of type faced character bearing elements individually displaceable therein to enable any one character face to be advanced beyond remainder, and a plane surface for supporting a surface capable of having characters reproduced thereon. Relative movement between unitary support and surface support is effected to form a character on receiving surface, and also in a position to predetermine position at which character is formed by first movement. Machine may be incorporated in composing machines of known form. Invented by Henry G. Croucher, Beecles, Eng. Assigned to William Clowes & Sons, Beecles, Eng. Application March 7, 1950; in Great Britain Mar. 12, 1949. 38 Claims.

2,639,026. TYPOGRAPHICAL DISTRIBUTING MACHINE is equipped with an upper transfer channel having a pair of horizontally disposed rails to support and guide spacebands by their projecting ears for return to a storage machine. Composed lines containing hair spaces are shifted endwise into channel. Hair spaces are free for lack of support to drop from composed lines down through channel for discharge therefrom to a quad box. Inclined guide means are located in the channel at its entrance end below level of lower ends of hair spaces, and are positioned to intercept the latter dropping through channels from terminal positions in composed lines and deflect then endwise into position for discharge into quad box. Invented by Frederick Hahn, San Francisco. Assigned to Mergenthaler Linotype Co., Brooklyn, N. Y. Application Oct. 26, 1949. 9 Claims.

2,639,027. TYPOGRAPHICAL CASTING MACHINE. A slug casting machine, equipped with a vertically movable line transporter and a horizontally reciprocable slide for delivering composed lines to the transporter, is equipped with a pair of line clamping jaws. Each jaw is movable independently toward the other for quadding and both are movable in unison toward each other for centering. Means are provided to condition mechanism of jaws to effect quadding and centering operations. Adjustable devices carried by line transporter are adapted during its downward movement to actuate conditioning mechanism. Line delivery slide carries pre-settable means for effecting required adjustment of actuating devices as a composed line is delivered to transporter. Invented by Ransom H. Turner, Great Neck, N. Y. Assigned to Mergenthaler Linotype Co., Brooklyn, N. Y. Application March 11, 1949. 22 Claims.

Feeding, Folding, Delivery:

2,637,505. WEB TENSIONING DEVICE is for controlling the tension of a paper web fed from a web roll to a rotary printing press. Friction means restrain rotation of the web roll. A pilot roller is moved by changes in the web tension and is connected to increase or decrease friction applied to the web roll, an increase in web tension causing decrease in friction. A mass is connected to move pilot roller against pull of web. A linkage having a variable lever arm ratio is connected between mass and pilot roller. A spring forms part of linkage. Linkage and spring are connected between mass and pilot roller for supporting mass with variable resiliency. Invented by Kenneth G. Laycock, Shavertown, Pa. Unassigned. Application Jan. 28, 1950. 16 Claims.

2,637,506. WEB TENSION-CONTROL FOR PRINTING PRESSES is for tensioning a web as it is fed from a web roll to a printing press. The device includes means for rotatably supporting the web roll. A running belt is driven from the press at a small fraction of the speed of the running web to be pressed against the surface of web roll to exert a drag thereon. A counterbalanced pilot roller over which web is fed is normally urged by means of a resiliently suspended mass against the tension of the web looped around it. A brake restrains feeding movement of belt to vary pressure of belt against web roll. Action of brake on belt is controlled by tension of web as measured by pilot roller. Invented by Kenneth G. Laycock, Shavertown, Pa. Unassigned. Application Nov. 4, 1950. 12 Claims.

2,637,552. MAGNETIC CALIPER FOR SHEET MATERIAL HANDLING APPARATUS. Caliper is for use with apparatus for feeding sheets of paper to printing presses. A magnet couple comprises a magnetized element and an armature element magnetically attracted toward one another and having feeler surfaces engaging opposed surfaces of sheets being calipered. A spring is connected with and continuously applies a yieldable force against one element which is movable toward and away from the other. Spring force tends to separate elements. Force of magnetic attraction is such that elements are held in engagement with surface of material as long as thickness of sheets is less than critical distance at which spring force tends to overcome magnetic force. Invented by George F. Watson, Racine, Wis. Assigned to the Christensen Machine Co., Racine, Wis. Application April 1, 1952. 28 Claims.

2,637,553. SHEET DELIVERY APPARATUS FOR PRINTING MACHINES. A flat-bed printing machine comprises a rotatable impression cylinder having sheet grippers, a piling table and an endless chain conveyor having grippers for delivering printed sheets from cylinder to table. Conveyor is composed of two sections hinged at adjacent ends for permitting either section to be raised or lowered as required. One of the sprocket shafts of conveyor is driven from shaft of impression cylinder. A variable speed gear synchronizes speed of conveyor with that of cylinder. A clutch effects engagement and disengagement of driving means when either conveyor section is raised or lowered. Invented by Arthur W. Ranger, Brighton, Eng. Unassigned. Application Apr. 8, 1948, in Great Britain, April 8, 1947. 9 Claims.

2,638,281. WEB ACCELERATING MECHANISM FOR WEB SPLICING DEVICES. In combination with a web roll reel rotatable about a central axis and having radially extending angularly spaced arms carrying rotatable web roll supporting spindles adjacent their ends, a frame carrying a single electric motor is mounted to turn about the axis of the reel near the reel arms so as to successively accelerate web rolls carried by several reel arm spindles in preparation

In your Pressroom, Composing Room, Engraving & Stereotype Department . . . These Eastern products bring best results!

• • • AD-MARKER • • •

Brush or spray it on for quick identification of "Live" or "Dated" ads! Will not injure metal! Will not impair reproduction! Instantly removable with AD-MARKER CLEANER! RED, BLUE OR GREEN.

TRU-MOLD CORK MOLDING BLANKETS
1/8", 3/16", 1/4", 5/16", 3/8"

DEEPMOLD CREEPERS
.062, .090

FLECTO GUMMED BACKING FELT
Cellophane Sealed

PLASTIC MOLDING BLANKETS
.125, .160

DOUBLE COATED CUT MOUNTING TAPE
1/4", 1/2", 1", 2"

GUMMED MATRIX TAPE
Red or Brown

DEEPMOLD BLANKETS
1/8", 3/16", 1/4"

Direct Pressure Molding Materials
Curved or Flat Casting Board
Composing Room and Stereotype Equipment

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for splicing the webs of the accelerated rolls to a web running from another roll. A clutch on the frame is operatively connected to the motor and is alignable with the spindles of the reel arms. As the frame is successively turned in unison with the reel, the clutch is aligned with and caused to engage the spindle arms in succession. Invented by Paul L. Tollison, North Plainfield, N. J. Assigned to Wood Newspaper Machinery Corp., Plainfield, N. J. Application Oct. 7, 1950. 11 Claims.

2,638,342. SHEET FEEDING AND REGISTERING MECHANISM. In a sheet-registering device for multi-color printing and having a sheet receiving element provided with one or more sets of grippers, an endless carrier provided with spaced sets of grippers operable to take the sheets and feed them to the receiving element, means are provided for registering temporarily released sheets from the grippers. Such registry is effected by a row of angularly positioned rollers cooperating to register the front and sides of the sheets before they are again taken by the endless carrier grippers. Invented by Hans J. Luehrs. Westerly, R. I. Assigned to C. B. Cottrell & Sons Co., Westerly, R. I. Application Apr. 4, 1951. 26 Claims.

2,638,343. SHEET FEEDING AND REGISTERING MECHANISM. This registry device is an improvement on the construction of patent No. 2,638,342 and relates to the registry of sheets while they are temporarily released from the grippers. This is effected by means of a frame on which side bars are slidable and side by side groups of diverging angularly positioned rollers having their inner ends rotatably mounted in bearings pivoted along the frame and their outer ends rotatably mounted in bearings pivoted along their respective side bars. The bars are independently slidable to adjust the angularity of the rollers of each group. Invented by Hans J. Luehrs, Westerly, R. I. Assigned to C. B. Cottrell & Sons Co., Westerly, R. I. Application Jan. 24, 1952. 30 Claims.

2,639,664. SHEET CONVEYER. In a multiple unit rotary printing press, press driven means drive a flexible conveyor in a curved path between units and at constant speed relative to the press. A sheet carrier is swingably attached to conveyor. Guide means swing the carrier to regulate slack of a sheet emerging from a printing unit until sheet has emerged, and as carrier approaches next unit, the guide means swing back the carrier into the same position relative to the carrier as existed as it approached first unit. Invented by Alexander J. Albrecht, West New York, N. J. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application Dec. 14, 1946. 7 Claims.

2,639,917. PILE ELEVATOR is for use with a sheet collator having a series of hoppers from which sheets are fed to a collecting conveyor. A rack is connected to hopper plate to move plate up or down and a support moves parallel with the rack. A pawl on the support is spring-pressed into engagement with ratchet teeth on one side of rack. A vertically reciprocable feeler bar, on its down stroke, engages the top of a pile of sheets and such feeler bar is raised once for each cycle of machine, and means are included for moving support upward with each upstroke of feeler bar. Each downward movement of bar depresses the pawl into engagement with the next lower tooth of the rack. Invented by Keith S. Macey, Parma Heights, O. Assigned to Macey Mfg. Co. Cleveland, O. Application Jan. 31, 1950. 7 Claims.

Miscellaneous:

2,637,255. PHOTOGRAPHIC CONTACT FRAME is for exposing sensitized photographic film, to form a plurality of stencil designs for silk screen printing processes, wherein is accurately located relative to the other designs on the surface of the film, other films being similarly exposed to form a plurality of design stencils thereon, whereby each design on one film may be accurately correlated with a corresponding design on another film in the course of printing operations using such films as multicolor stencils, thus attaining precise color registration in each of the final prints. The film support movably mounted in the frame permits consecutive exposure of selected areas of film through a master mounted in cover of frame, position of which is adjusted for each exposure. Invented by Albert Pleydell and Rose Pleydell, Bellerose, N. Y., and Jean F. McIntyre, Flushing, N. Y. Assigned to Flambard, Inc., New York, N. Y. Application June 28, 1950. 3 Claims.

Platemaking:

2,637,651. METHOD OF PRODUCING IMAGES ON RIGID SURFACES. The invention relates to a method of producing an image on a printing element such as an electroprinting or lithographic plate. An electroscopic powder image is transferred from a photoconductive insulating coating of an electrophotographic plate to a metal plate by placing a transfer sheet of flexible insulating material against the first plate carrying the image, and applying an electrostatic charge to the back of transfer sheet. Charge is opposite in polarity to that of powder. Transfer is removed and placed against metal plate and a second electrostatic charge, opposite in polarity to first, is applied, causing transfer of image to face of metal plate. Invented by Harold E. Copley, Columbus, O. Assigned, by mesne assignments, to Battelle Development Corp., Columbus, O. Application Oct. 2, 1948. 6 Claims.

2,637,689. DEVICE FOR MAKING CURVED ELECTROPLATE SHELLS. Invention provides a method of producing arcuate printing shells for arcuate printing plates. Holding device for maintaining a flexible mold having relief indicia comprises an impervious trough portion arcuate in horizontal cross-section and a collar on upper end of trough overlapping and spaced apart from inside of trough. Collar has its length arcuate to conform with inside arc of trough and overlaps upper marginal edge portion of mold for detachably holding same in curved condition. A bracket secure to trough member has raised flat portion with a headed stud. A spring tongue extends into trough and engages mold and has a bayonet slot for engaging stud. Spring clamp means connect with bracket for connecting it to support rod of a plating tank. Invented by Robert R. Myers, jr., Des Moines, Ia. Unassigned. Application Jan. 21, 1949. 1 Claim.

2,637,929. PROCESS FOR PRODUCING LITHOGRAPHIC PRINTING PLATES. One side of a sheet of at least 99 percent pure aluminum is brushed with a brush having coarse steel bristles of .008 inch diameter moving at 1400 feet per minute to tear the skin of the sheet and to form a coarse grain. A second brush having finer steel bristles of .005 inch diameter moving in the opposite direction at same speed is used to subdue the coarse grain. The sheet is then immersed in a saturated aqueous solution of calcium hydroxide maintained at 175-185° F. for 25-55 seconds. The plate is then water scrubbed and dried. Invented by Walter J. Hausman, Washington, D. C. Unassigned. Application Apr. 27, 1950. 3 Claims.

2,638,040. APPARATUS FOR PRODUCING TYPE PROOF AND PHOTOPRINTS is useful in offset printing, production of layouts, etc., and comprises an enclosed housing with a light source distributed over the lower portion thereof. A transparent bed-plate formed with a plurality of ribs and grooves on its upper surface is removable mounted within the housing over the light source. Transparent type units, each having an opaque character on one surface and a depending element extending from opposite surface and interlocking in a groove of bed-plate, are of greater length than the width of one of the ribs. Units contact with and span a plurality of ribs. A sensitized sheet is held in intimate contact with the units. Invented by Joseph F. Murphy, West Roxbury, Mass. Application Feb. 11, 1950. 7 Claims.

2,638,416. DEVELOPER COMPOSITION FOR DEVELOPING AN ELECTROSTATIC LATENT IMAGE. The process and materials are applicable to various types of image-bearing plates, as for instance where the plate does not carry a photographic layer and does not require a photographic exposure to produce an image, the image being in the form of an insulating layer that is fixedly attached to the conductive plate and may be used repeatedly to produce a multiplicity of copies. Image may be transferred to a coated plate by exposing it to light through a negative and after development and drying, it is dusted with a granular carrier of opposite polarities which act to remove electroscopic powder from uncharged areas of the plate. Invented by Lewis E. Walkup, Columbus, O., and Edward N. Wise, Los Alamos, N. M. Assigned, by mesne assignments, to The Battelle Development Corp., Columbus, O. Application May 1, 1948. 9 Claims.

2,638,417. PHOTOGRAPHIC FILMS HAVING A STRIPPING LAYER COMPOSED OF A MIXTURE OF ETHYL CELLULOSE AND CELLULOSE NITRATE. The films are presensitized and suitable for use in making gelatin reliefs for photogravure and like reproduction processes. The film is made of a hydrophobic cellulose carboxylic acid ester film base and one surface is coated with a

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thin layer of nitrocellulose, a thin anchoring substratum of gelatin and a gelatin backing layer, and the other surface is coated in order with a stripping membrane composed of a mixture of a water-insoluble ethyl cellulose and cellulose nitrate containing 6 to 9 parts of the former to 4 to 1 parts of the latter, a thin gelatin substratum and a gelatin silver halide emulsion layer containing a coloring substance. Invented by Clayton F. A. White, Stelton, and John R. Hill, Piscataway Township, Middlesex Cty., N. J. Assigned to E. I. du Pont de Nemours & Co., Wilmington, Del. Application Nov. 3, 1949. 8 Claims.

2,638,500. PROCESS AND APPARATUS FOR PHOTOELECTRIC ENGRAVING. A plate engraving apparatus comprises a picture reflecting lens adjustable for varying the size of an image reflected from a picture, a photoelectric cell for scanning the image, and a plate positioned for engagement with a cutting tool. Lens and tube are encased in a tube and aligned with a restricted aperture located on a focal plane of an image reflected from a picture by lens. Voltage and current from tube that controls depth of engagement of tool into a half tone plate can be varied at different intensities of illumination of tube for lightening gray portions without changing black portions, thereby obtaining greater contrast between light and dark tones in picture produced. The halftone plates are for use in making stereotype mats or for printing directly from plates. Invented by Clare E. Ernst, Flint, Mich. Unassigned. Application June 28, 1951. 5 Claims.

2,639,995. PROCESS AND APPARATUS FOR PREPARING A PRINTING PLATE. In the production of a plate for newspaper work, this method provides for conveying the plate through successive treating zones, applying powder to the plate as it moves under a powder supply mechanism, pressing the powder against the shoulders of type and art work in the plate by engaging the plate with a squeegee, removing excess powder and holding it against vibration during the pressing step. The powder is then semiliquefied by heating, and after cooling same, the plate is moved at increased speed beyond the heater. After further cooling the plate is removed and conveyor is cleaned to receive next plate. Invented by John H. Perry, jr., Palm Beach, Fla., and Robert C. Graham, Elizabeth, N. J. Assigned, by mesne assignments, to John H. Perry, jr., West Palm Beach, Fla. Application Feb. 28, 1949. 10 Claims.

Printing Presses:

2,637,269. STENCIL PRINTING APPARATUS includes a printing table and a track on which a scraper is actuated back and forth across the table from an electric motor through a hydraulic transmission. A positive kinematic train interconnects the scraper and its reciprocating element. The train includes a motion reducing mechanism whereby the reciprocating element duplicates in miniature the movements of the scraper. This provides for sharply increasing the speed reduction of the scraper just before it reverses or stops. Invented by J. B. Thomas, Watertown, Conn. Assigned to Roto-Matic Screen Printer, Ltd., New York, N. Y. Application Apr. 19, 1951. 21 Claims.

2,637,270. INTAGLIO PRINTING PRESS. The arrangement comprises a plurality of units each of which contains a printing cylinder, web guide rolls, an adjustable pressure roll and drying and exhaust mechanism. The pressure roll is designed to hold the web in engagement with the printing cylinder during printing operation and is mounted to be advanced or retracted as desired without altering the web tension and without changing the web feed to or from the unit. A single drive is provided for all of the units which includes power means and drive shafts which extend in back of all of the units. An improved running register control is included for adjusting the registry positions of the various cylinders. Invented by A. P. Bamford, East Orange, N. J. Assigned to The Sperry Corp., Long Island City, N. Y. Application June 23, 1949. 12 Claims.

2,638,048. CONTROL DEVICE FOR PRINTING ROLLERS IN PRINTING MACHINES. A printing machine comprises a central cylinder journaled in a frame and engaged by a plurality of printing rollers about its periphery. The rollers have gears disposed outwardly of the frame. A toothed control wheel is mounted on a spindle coaxial with the cylinder and projected outwardly from the frame on the same side as gears. Casings are supported by and project inwardly from a disc mounted on spindle outwardly of wheel. Electric motors are opposed to casings from which fixed pins extend parallel to spindle. Two adjacent pinions are in mesh with wheel and one roller. A differential mechanism is mounted on pin and has sun gears connected to pinions. A planetary carrier is connected to one motor. Invented by Philibert Deck, Zurich, Switzerland. Unassigned. Application Oct. 14, 1950; in France May 15, 1950. 2 Claims.

2,638,050. METHOD OF MAKING PRINTING ROLLS. The roll is for use in intaglio printing, and prints an area of graduated and decreasing density. A multiplicity of uniform and disconnected ink-carrying depressions of uniform predetermined area and depth are formed through an annular zone having an outer side spaced inwardly from an end of the roll and an opposite inner side spaced longitudinally therefrom. Surface of the roll within the zone is progressively removed to reduce area and depth of depressions progressively from one side of zone to other. Surface of roll between end of roll and outer end of zone is removed in the plane of bottoms of depressions. Invented by Wm. H. King, West Springfield, Mass. Assigned to Multicolor Gravure Corp., Florence, Mass. Application May 28, 1952. 4 Claims.

2,638,843. ROTARY PHOTOGRAVURE PRINTING MACHINE comprises on a rockable sub-frame a casing having a drain in register with a hole in sub-frame. An image cylinder is in the casing. A detachable plate forms a part of a wall of the casing. An ink tray on the plate extends in the casing beneath the image cylinder. The casing has a port above the ink tray. An ink tank is detachably secured beneath the sub-frame with a hole in register with hole in sub-frame. A detachably mounted pump in the tank is connected by a flexible delivery pipe to the port in the casing. Pipe connects a flexible shaft drive to the pump. Invented by Angus M. Halley, Moseley, Birmingham, Eng. Unassigned. Application June 29, 1950; in Great Britian, May 8, 1950. 5 Claims.

2,638,844. ROTARY PHOTOGRAVURE PRINTING APPARATUS. The apparatus has a doctor blade within a longitudinally recessed quasi-cylindrical housing. A longitudinally recessed carrier is slidable in the recess in the housing. The doctor blade is in the recess in the carrier against one wall thereof. A metal strip is in the recess in the carrier on the opposite side of the doctor blade. A plurality of spaced expandable clamps are in the recess in carrier between strip and opposite wall of recess. A plurality of rotatable plugs are mounted in bores in the housing that intersect a side of the recess therein. Eccentrics on plugs engage slots in carrier. Pins in carrier pass through hollow bores in plugs and are secured by lock nuts. Invented by Angus M. Halley, Moseley, Birmingham, Eng. Unassigned. Application June 29, 1950; in Great Britain, May 8, 1950. 5 Claims.

2,638,846. BOOK AND LEAF HOLDING DEVICE FOR PRINTING MACHINES. The machine is for imprinting individual leaves of a book in which the leaves are secured along a narrow side thereof. The book is supported on a table having a main abutment bar, an end abutment bar and a pair of short end legs presenting a recess. Inside edge of one leg is aligned with inside edge of main abutment bar whereby book may be held in imprinting position with bound end in recess. A pair of opposed members having ends extending inwardly over the table toward each other are mounted on table for movement toward and away from each other. Members hold turned leaves away from imprinting position of upturned leaves. Invented by Charles G. Krakenberg, New York, N. Y. Assigned to Checkmaster Systems, Inc., New York, N. Y. Application Aug. 5, 1950. 8 Claims.

2,639,666. ROTARY PRINTING MACHINE. Invention

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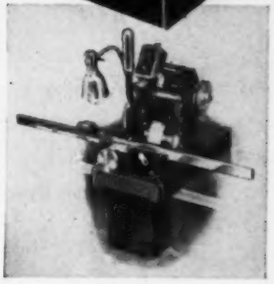

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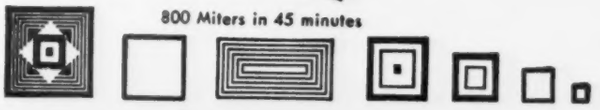

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relates to means for setting a printing cylinder relative to printing medium. Means comprise a pair of levers having bearings for supporting the printing cylinder. Levers are piloted to frame of machine. A shaft is rotatable in eccentric bores in a pair of bushes in the frame. A paif of disks are eccentrically mounted on the shaft and have facial cam tracks eccentric to the shaft. A pair of links are each pivoted at one end to the corresponding one of the levers. Each link has a pin engaging the cam track in one disk. Means are provided for rotating the shaft in bushes and the bushes in the frame. Invented by Angus M. Halley, Moseley, Birmingham, Eng. Unassigned. Application June 29, 1950; in Great Britain May 8, 1950. 4 Claims.

2,639,668. PRINTING CYLINDER for use in a rotary printing press, is adapted to receive and secure stereotype printing plates in or out of alignment, by circumferentially applied tension. The tension lock-up arrangement comprises a plurality of adjustable register hooks, mounted in the cylinder and spaced therealong for engaging pockets at the leading and trailing edges of the plates. A plurality of peripherally movable tensioning hooks are mounted in the cylinder at opposite edges of the plates for engaging the pockets. A shaft extended adjacent the tensioning hooks ncludes means for interconnecting the shaft and the tensioning hooks so that the hooks are moved in unison toward and away from engagement with the associated pockets in the plate upon movement of the shaft in either direction. Springs are interposed between the shaft and the tensioning hooks so that the hooks may be brought into full resilient engagement with the associated pockets regardless of the alignment or misalignment of the plates. Invented by Corson W. Chase, Oak Park, Ill., and Kent R. Manning, Jackson, Mich. Assigned to The Goss Printing Press Co., Chicago. Application Sept. 10, 1948. 12 Claims.

Pig Signal Device

(Continued from Page 44)

supply line at the usual terminals. The contact lever is mounted pivotwise by means of a fibre block. In the right end of the block is inserted a piece of 3/32 in. drill rod, *1*, Fig. 1, looped at the end into eye-shape. This eye straddles the chain which is free to move up or down without causing the contact lever to move. In the illustration the feeder chain stop knob has been supplied with a fibre washer recovered from an old Lamson pneumatic carrier tube. As the pig supply is exhausted, the fibre washer contacts the limit switch lever, raising it and causing the circuit to be closed which in turn illuminates the green signal lamp. When the stop knob and washer are lowered

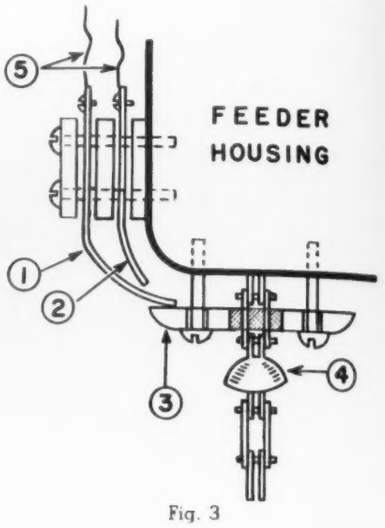

Fig. 3

out of engagement with the switch lever at the time the chain is retracted for replenishing the pig supply the switch lever automatically falls by gravity thus breaking the circuit for the green signal lamp.

The other signal device is shown in Fig. 2 and works on the same principle as the limit control switch shown in Fig. 1. In this case, however, the green light is turned on by closing the circuit between two phosphor bronze spring contacts *1* and *2* in Fig. 3, suspended from a fibre block mounted at the side of the metal feeder housing. In this device, a fibre washer *3*, recovered from an old Lamson pneumatic carrier tube, is used for closing the circuit between the spring contacts when raised upwardly. This fibre washer is affixed to the underside of the feeder operating housing by two screws. Vertical movement of the washer is permitted for approx. 1 in. due to loose fit of the holes straddling the screws. The center hole in the fibre washer *3* permits the feeder chain to operate unobstructedly. As a metal pig is exhausted, the feeder chain stop knob *4* is raised, causing it to bring pressure against the fibre washer. This pressure pushes the washer upwardly as well as the lower end of the lower spring contact *1* which bears upon the washer. When the gap between the lower spring *1* contacts the upper spring *2*, the circuit is established which illuminates the green signal lamp. The signal light is connected to the spring contacts by a 110 v., a.c. line *5*. Lowering the stop knob *4* at the time the feeder chain hook is elevated for pig replacement also releases the pressure of the fibre washer against the lower bronze spring thus breaking the circuit to turn off the green signal lamp.

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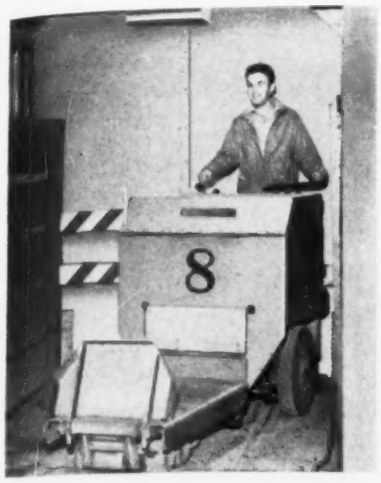
Shortening Truck Bed Solves Space Problem

THE problem of transporting a standard powered platform truck on a freight elevator which proved to be of insufficient depth was solved recently



by a Chicago plant. The load units in this plant necessitated skidded loads which required a standard 4000 lbs. platform truck. This same truck needed a platform which measured no less than 72 in. in length, and an overall truck length of 137 in. Because the depth of the elevator measured approx. 17 in. less than the minimum length of the standard vehicle, some method had to be found to fit the vehicle inside the elevator.

The company, working with engineers of the Elwell-Parker Electric Co., decided on a standard platform truck with hinged platform and hinged operator's pedals.

As shown in the accompanying illustration, when inside the elevator, the front end of the truck's platform is folded back some 17 in. Additional clearance is gained by hinging the operator's control pedals. Thus, the overall length of the truck was reduced to 118 in., sufficient to be accommodated inside the freight elevator.

Win Awards

Two books entered in the recent eighth annual show of the Philadelphia Book Clinic the type for which was set photographically, won awards. The books, *Heidi,* and *Alice in Wonderland,* were set on Intertype Corporation's Fotosetter by Typographic Service, Inc., Philadelphia. Twelve publishers submitted 77 books, from which 28 were selected as winners. In making this announcement, Intertype Corporation also stated the first hard-bound book to be composed from type set photographically was published in May 1951 by the U. S. Government Printing Office.

$1/2 Million Plant for Mankato Paper

A HALF million dollar newspaper printing plant was recently put into operation in Mankato, Minn., as the new home of the Mankato *Daily Free Press.* A two-story structure, it houses production equipment and editorial and business offices of the newspaper, as well as a stationery store and the commercial printing department offices. The commercial printing facilities are in an adjacent building.

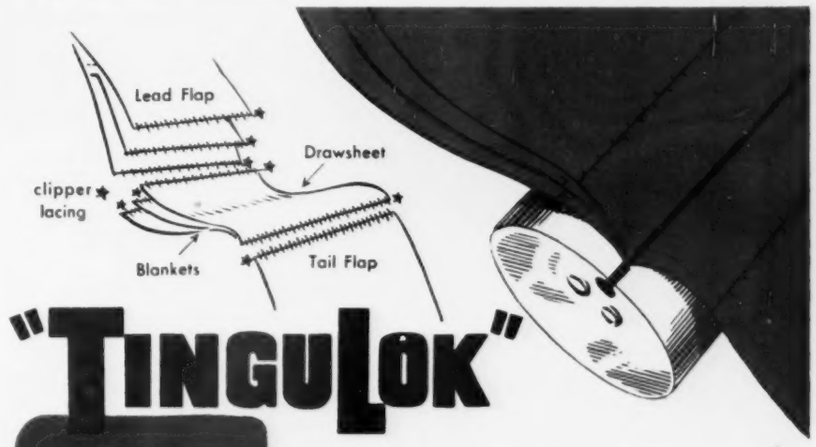
The exterior of the building, which measures 66 ft. by 100 ft., is of Mankato stone and tan brick. A heavy foundation for the building is separated from a foundation on which rests the Goss newspaper press. With separate foundations, it is claimed that noise and vibration from the operation of the press is cut to a minimum.

There is a total of 7562 sq. ft. of space in each floor. Newsprint storage and reel room are located in the basement. On the first floor are the pressroom, stereotype department, mailing room, circulation department, business and bookkeeping departments, advertising department, commercial printing sales department and stationery and book store.

The second floor houses the composing room, proofreaders' room, editorial department, publisher's office and employees cafeteria. The equipment layouts in the different departments were prepared by Swift Engineering Co.

The building was designed to permit a third floor addition in the future if the company desires to expand its operations. The first and second floors weigh 150 lbs.

(Continued on next Page)



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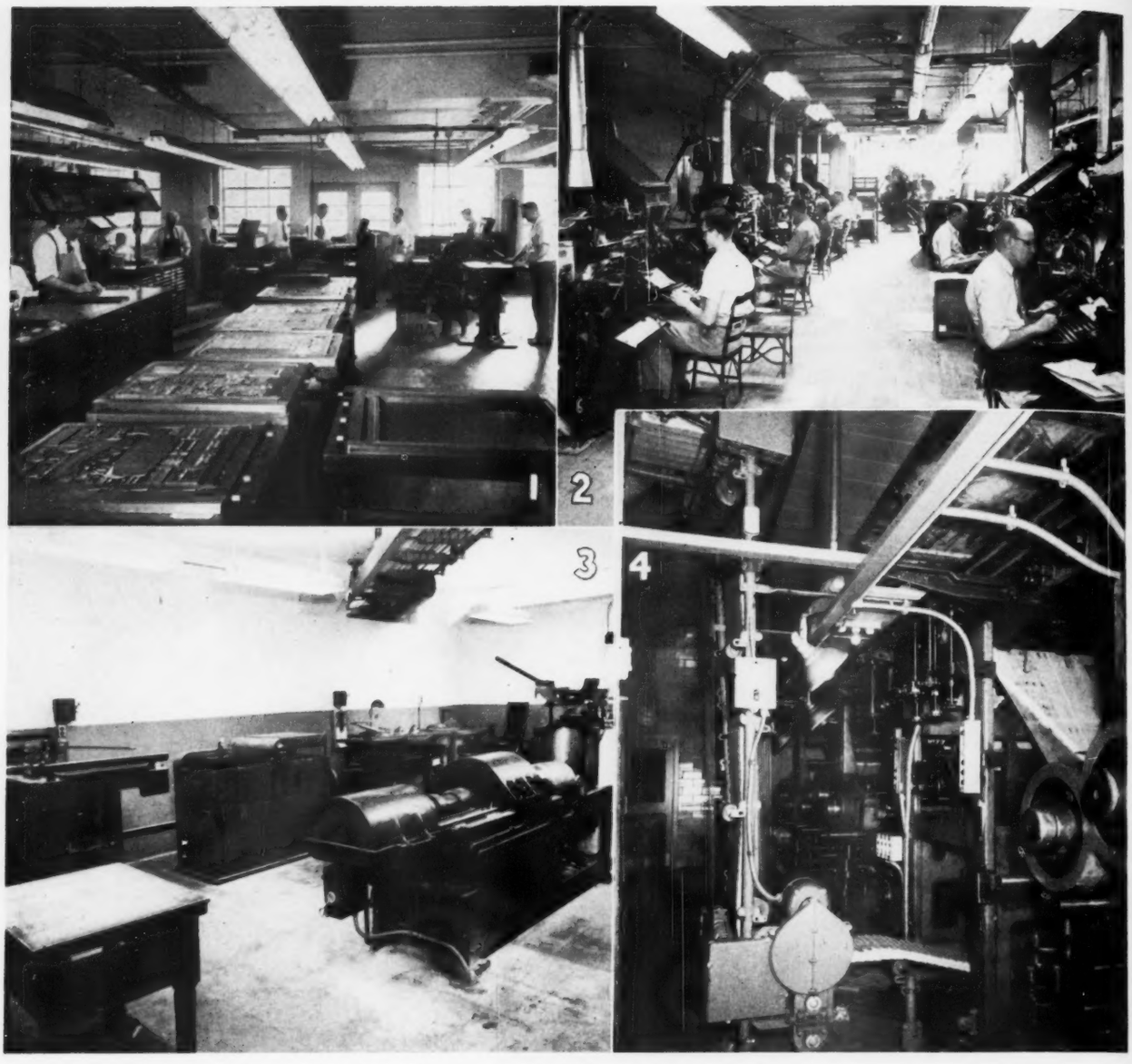

Departmental Scenes in New Plant of Mankato *Free Press*

1.—One of the most noticeable features of the composing room is the effective use of overhead space which can be seen here and also in Fig. 2. In addition to fluorescent lighting fixtures located over the proper working areas, an overhead airconditioning system has been installed in the department. Recently added were the makeup trucks seen in the foreground.

2.—Another view of the composing room showing the eight Linotype machines. A new linecasting machine was installed before the move into the present building. Here also can be seen the individual exhaust feeder pipes over each metal pot which are connected to the main pipe for exhausting combustion fumes outside the building. The acoustical ceiling provides sound conditioning. Hard maple flooring is used in the composing room.

3.—The stereotype department in which has been installed such new equipment items as the Kemp remelting furnace, Pony Autoplate, Sta-Hi mat former, Plane-O-Plate shaver and Wesel router. Overhead can be seen the Cutler-Hammer conveyor which carries the papers from the pressroom through the stereotype department into the mailroom. Tile floors are used in this department.

4.—A view of the Cutler-Hammer conveyor attached to the press at the *Free Press*. The press is a 64 page Goss Heavy Duty Universal with speeds of up to 30,000 newspapers per hr. It will print two colors in addition to black.

/sq. ft., while the roof weighs 125 lbs./sq. ft. This was designed to provide an adequate foundation for the heavy machinery being operated in the building. The foundation also assures the operation of machinery on a third floor should it be added.

Several pieces of new equipment were added in various departments when the *Free Press* moved into its new quarters. In the composing room, an Intertype linecasting machine, two ad dump tables, Monotype Material Caster and makeup trucks were installed to supplement existing equipment. The stereotype department was outfitted with a new Pony Autoplate, Kemp remelting furnace, Sta-Hi mat former, infrared mat shrinker and Wesel heavy-duty router.

A 64 page Goss Heavy Duty Universal press replaced the 28 page Goss press used by the *Free Press* before the present building was opened. Maximum speed of the press is 30,000 newspapers per hr. It is designed for printing two colors in addition to black. During the flood in the Mankato area in April 1951, the new press was under 7 ft. of water. It took more than three months for a disaster crew from the Goss Printing Press Co. to tear it down, clean and re-erect it.

Editor and publisher of the *Free Press* is C. H. Russell who is also Vice President of the Free Press Co. Russell was recently elected President of the Graphic Arts Industry, Inc., in the Minneapolis area.

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The Newton Press
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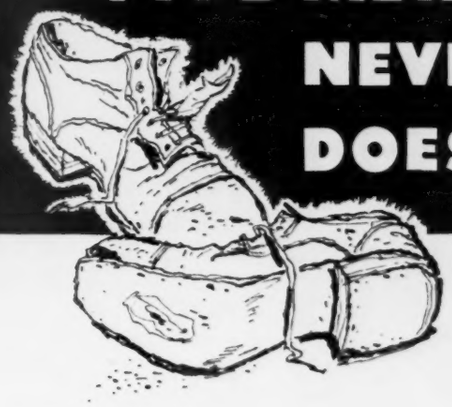

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Books

(Continued from Page 39)

Young & Rubicam, Inc., New York: John J. Quinn, Anderson & Cairns, Inc., New York; and Richard Turnball, AAAA Headquarters, New York.

Type Face Directory

THE Typographers Assoc. of New York, Inc., affiliated with New York Employing Printers Assoc., Inc., has issued its fifth annual edition of the *Type Face Directory*. The Directory's 152 pages contain listings of 1206 Intertype, Linotype, Ludlow, Monotype and handset type faces in a full range of sizes.

Accompanying each type face listing is the name of the Association plant where it is available along with the sizes carried by each company. Included in the Directory are chapters on preparation of copy, economies in composition, proofreading and copyfitting.

The Directory will be furnished without charge to firms interested in purchasing or specifying type composition whose requests are made on their letterheads. Requests should be addressed to Typographers Assoc. of New York, Inc., 461 Eighth Ave., New York 1, N. Y.

4 Ways to Save Money on Type Metals

1 Send for Federated's new compact booklet entitled "How to Save Money on Type Metals."

2 Send for a wall poster on re-melt practice. It is suitable for hanging in your shop . . . done in cartoon style . . . readable, authoritative.

3 Send for a Federated dross drum and get your shop on the Federated Mor-Tin Plan.

4 Send for a Federated serviceman if you are having any problems with type metals. Federated servicemen can be reached through your Federated representative, or through any one of 22 Federated sales offices across the nation.

Federated Metals Division
AMERICAN SMELTING AND REFINING COMPANY
120 BROADWAY, NEW YORK 5, N. Y.
In Canada: Federated Metals Canada, Ltd., Toronto, Montreal

Federated first in the non-ferrous field FMD

Aluminum and Magnesium, Babbitts, Brasses and Bronzes, Anodes, Die Casting Metals, Lead and Lead Products, Solders, Type Metals

Graphic Arts Education

TEN articles of interest to Graphic Arts Educators at all levels are included in the 1952 winter issue of *Graphic Arts Education*, available to members of the Intl. Graphic Arts Education Assoc. and the Education Council of the Graphic Arts Industry, Inc. Standardization of study, printing tests, technical source material, printing instruction and coordination in education are among the subjects discussed by authors who are well known in the industry.

Contributing authors in this issue are as follows: Arthur A. Wetzel, President, Wetzel Brothers, Milwaukee, Wis.; Pearl E. Oldt, Executive Secy., Intl. Assoc. of Printing House Craftsmen; Z. H. Coberly, Emmanuel Missionary College, Berrien Springs, Mich.; Dr. Edward C. Estabrooke, Educational Director, American School, Chicago; Patrick F. Boughal, First Assistant, New York School of Printing, New York; George M. Halpern, Advertising Production and Management, State University of New York; Augustine E. Winnemore, Eastern High School, Washington, D. C.; Howard Massman, Printing Trades Coordinator, Dayton Cooperative High School, Dayton, O.; and C. L. Greiber, State Director, Wisconsin State Board of Vocational and Adult Education.

The information contained in this issue is intended to provide the educational branch of the industry with an accurate, up-to-date picture of trends in education and the results of surveys conducted to determine present states of printing education. Editor of *Graphic Arts Education* is Fred Hartman. Executive Secretary of the Education Council of the Graphic Arts Industry is Samuel M. Burt.

Graphic Arts Safety Manual

INFORMATION for printing plant management use in protesting personnel, as well as protecting its substantial investment in equipment and facilities, is now available in a textbook being distributed by the National Safety Council and the Education Council of the Graphic Arts Industry. Entitled *Safety Manual for the Graphic Arts Industry*, the manual has been written for use by both small and large plants.

The text deals with how injuries and accidents to personnel and equipment may be prevented in the printing plant. Chapters are devoted to composing room, platemaking, pressroom and bindery. In each of these chapters examples are cited of successful injury preventive measures found in various printing plants. More than 70 illustrations showing safety measures which can be adopted are used.

Other chapters are titled *Handling Materials*, *Safety—Everybody's Gain*, *Machines, Equipment and Services*, *Fire Safety* and *Putting Safety to Work*.

It is pointed out in the manual how costly injuries and accidents are in a

printing plant. Case histories are given on how safety programs have resulted in substantial savings in small and large printing plants alike. The chapter on *Fire Safety* discusses handling of employee smoking problems, solvents, chemicals, waste paper, oily wastes, etc.

The chapter on the *Composing Room* is subdivided into the following sections: Composing Room Layout, Bank Work, Stone Work, Saw Trimmers, Proofing, Cleaning Type and Forms, Metal Squirts and similar subjects. Chapters covering other departments are similarly detailed in their treatment.

Copies of the manual may be obtained by writing to the National Safety Council, 425 N. Michigan Ave., Chicago 11. Price is $2.50 per copy.

Linotype Operation

A CONCISE description of the Linotype linecasting machine and related information for students and apprentices has been prepared by Harry L. Gage, Vice Pres., Mergenthaler Linotype Co., in the 40 page book entitled *Linotype Operation*. Beginning with brief chapters on the function, history, invention and development of the Linotype, the text leads into an explanation of how the machine works and the various Linotype models.

An informative chapter is devoted to different kinds of composition which includes type sizes, measurements, straight matter, broken measure work, leader and tabular work, and advertisements. Of interest to the person considering the field of Linotype operation are sections on trade conditions and salaries, and future of Linotype operation.

Gage adds further value for such a person by listing the personal qualifications for Linotype operation, scholastic and trade experience needed, schools offering Linotype operation and typical Linotype course outlines.

Linotype Operation—by Harry L. Gage. Book consists of 40 pages; size, 6 in. by 9 in.; blue paper cover. May be ordered from Bellman Publishing Co., P. O. Box 172, Cambridge 38, Mass. Price, $1 per copy.

Presidents' Conference Proceedings

THE *Proceedings* of the Professional Conference for Presidents, conducted by Printing Industry of America in Chicago in February of this year, have been published in a 182 page report. The publication includes the addresses and discussions held during the general sessions, luncheon meetings and in the discussion groups. Work simplification, human relations, increasing productivity, plant and equipment modernization programs, and controls and tools are among the topics which were taken up during the two-day conference. The printed proceedings are available to PIA members only on the following basis: free to those who attended the conference, $10 for the first copy and $5 each for additional copies to other members.

A Practical Touch System for Linecasting Machines

LINECASTING machine apprentices and students will find considerable information in the 176 page text *A Practical Touch System for Linecasting Machines* prepared in multiple pamphlet form and written by Edwin B. Harding of South Dakota State College. The 12 chapters in the text begin with an introduction to the keyboard and elementary exercises, and ends with a chapter on maintenance of the machine.

Harding's technique graduates the beginner from introductory keyboard exercises to setting various newspaper styles. He explains that the book is presented in pamphlet form to enable the pupil to fold the practice exercises and place them on the copyboard.

Different chapters deal with such subjects as assembling matrices and spacebands, proofreaders' marks, running heads, hand spacing and other justification, and auxiliary positions. Among the important sections is the one on slug casting troubles which includes information on a stuck slug, stuck ejector, height of metal in the pot, hairlines and clutch slipping stops.

Recasting, casting blank slugs, machine changes, use of the border block are discussed in another chapter. Further details on the instruction manual may be obtained by writing direct to Edwin B. Harding, Sunny Hill Place, 1028 Eighth Ave., Brookings, S. D.

(*Continued on Page 57*)

Good Make-Ready gets—Good Results!

Good make-ready is easier and printing quality increases with Cromwell Special Prepared Tympan. It's smooth, always even. Has uniform texture. Gives you clean, sharp impressions with less work. You get a tight, strong packing that's tough—extra hard—with absolute resistance to oil and atmospheric changes. Cromwell Tympan is *unconditionally guaranteed.* You can depend on it.

for good PRINTING make-ready don't say "Tympan" say . . . CROMWELL!

CROMWELL PAPER COMPANY
4801-39 S. Whipple St.
Chicago 32, Illinois

send this coupon now for free samples

Cromwell Paper Company
4801 South Whipple Street
Chicago 32, Illinois

Send working samples of Cromwell Special Tympan to me without charge or obligation.

Name _____

Firm Address _____

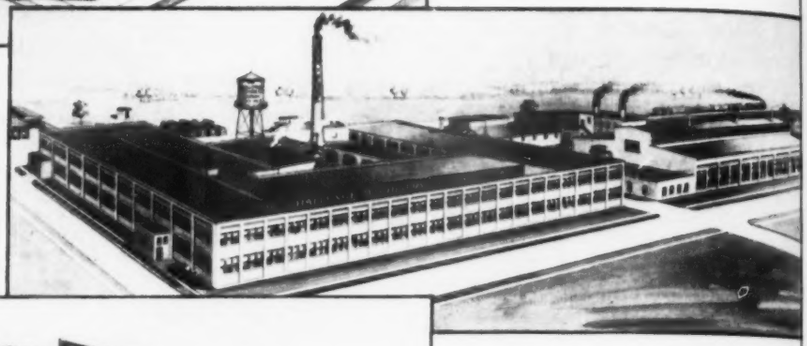
City _____ Zone _____ State _____

Press Make _____ Top Sheet Size _____

(check)—Square Cut ☐ Clipped, scored ☐

PLANT NO. 1
Grand Haven, Mich.
61,000 sq. feet of
floor space, including
general office.

PLANT No. 2
Grand Haven, Mich.
122,000 sq. feet of
floor space, including
foundry.



PLANT No. 3
Grand Haven, Mich.
57,000 sq. feet of
floor space.

Challenge Observes Fiftieth Anniversary

The Challenge Machinery Co. marked its 50th manufacturing anniversary in Grand Haven, Mich., June 29. The company first started in Chicago in 1870 as an electrotype foundry under the name of Shniedewend & Lee. In 1893 the firm was reorganized as The Challenge Machinery Co. and moved to Grand Haven in 1903. Challenge now is operated in three plants. The original factory, presently designated as Plant No. 2, had 55,000 sq. ft. of floor space. In 1907 a gray iron foundry was built. Plant No. 1 was acquired in 1948 and Plant 3 was added in 1952. The three plants now have a combined floor space of 240,000 sq. ft. with a total of about 10 A. of land. More than 300 persons are employed.

The Golden Anniversary event was commemorated locally by the Grand Haven *Daily Tribune* with a special section carrying nine pages of stories, features, pictures, and congratulatory messages from other Grand Haven business institutions. The company also received letters, telegrams and flowers from individuals and firms all over the nation. Employees were guest of the company at an all-day picnic at nearby Mona Lake Park.

Challenge products now include paper cutters, paper drills, printing and proofing presses, quoins and keys, iron furniture, and other printing equipment, plus a line of precision equipment for the metal-working industries.

Current company officers are J. Edgar Lee, President; J. Wesley Lee, Executive Vice Pres.; Ralph G. Wilson, Treasurer; and E. Paul Babcock, Secretary.

Now Offers BS Degree

The Rochester Institute of Technology, Department of Printing, headed by Byron G. Culver, has been authorized by the New York State Board of Regents to conduct courses leading to the Bachelor of Science degree.

Prints on Hardwood Pulp

The complete issue of the May 23 Bangor (Me.) *Daily News* was printed on newsprint using a large percentage of hardwood groundwood pulp. It was claimed this was the first full press run on newsprint using hardwood in the United States, and possibly the entire world. The sheet from which the test run was made contains in excess of 30 per cent hardwood pulp. Ordinary newsprint is composed of softwood groundwood pulp and sulphite.

The newsprint used in the special run was manufactured by the Great Northern Paper Co. Approx. 15 T. of hardwood newsprint were used for the edition.

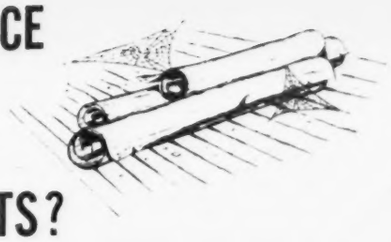
Manuel C. McDonald, President of the Great Northern Paper Co., said that the hardwood newsprint was manufactured in the ". . . orthodox manner." No changes were necessitated on the paper-making machines, nor were any unusual precautions and extra attentions taken regarding mechanical operation, he added.

"There seemed to be no difference between the hardwood newsprint and the regular newsprint. Strength, opacity, and ink absorption were the same," said Richard K. Warren, Treasurer and Asst. Publisher of the *Daily News*.

Foam-free Casein Announced

A foam-free casein which, it is claimed, will permit finer printing in the offset-lithographic and other industries where specialty coated papers are needed, has been developed by the Borden Company's Chemical Div. The new product, Protovac PV-416, can be used in the usual casein-clay coating. It does away with excessive ink pickup caused by pinholing. Pilot tests on rough offset-lithographic paper plates indicate that the hard coating will permit more than 5000 impressions per plate. The improved casein product is manufactured in dry form at Borden's Bainbridge, N. Y., chemical plant.

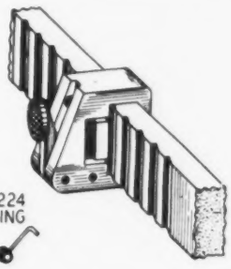
WHAT PRICE 50 YEAR OLD BLUEPRINTS?

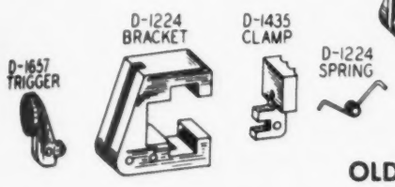


It's performance that counts in today's fight against increasing costs. That's why so many thousands are taking advantage of STAR PARTS.

For instance here is one so obviously better that there can be no room for argument about it.

Here is the "original Delivery Slide Bar" and the Clamp Bracket and the rest of the delicate parts: clamp, spring and trigger. These have always been a source of time consuming maintenance and a nuisance to the operator because after a short period of use the clamp slips on the bar.

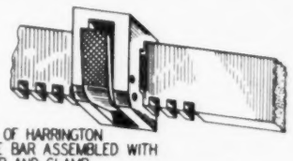




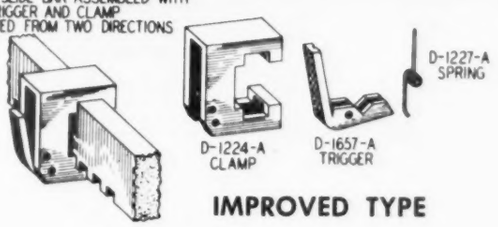
OLD TYPE

On the other hand here is the improved Star Part . . . the Harrington Delivery Slide- Bar and Clamp.

Note how simple and rugged it is. The trigger drops into place between deep teeth and the clamp **cannot slip.** Yet the bar fits in exactly the same place on the machine as the "original". This means hours of time saved each year in operator's time and machinist's time, not to speak of reduction of parts replacements to the vanishing point.



PORTION OF HARRINGTON DELIVERY SLIDE BAR ASSEMBLED WITH TRIGGER AND CLAMP AS VIEWED FROM TWO DIRECTIONS

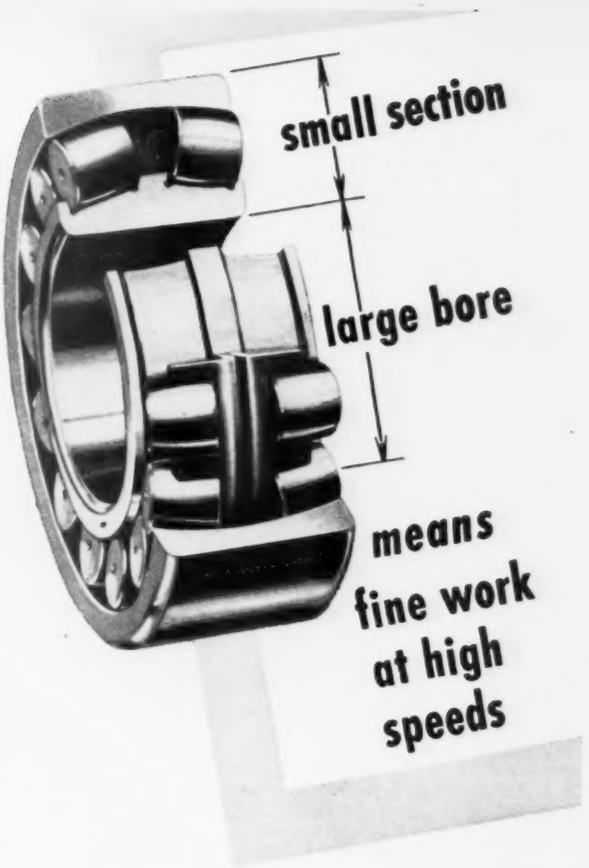


IMPROVED TYPE

*If you are not already acquainted with the trouble-free Harrington Delivery Slide, write for descriptive folder, or better still send for the part for the Bar and Clamp on approval.

PRECISION
TRADE ★ MARK

LINOTYPE PARTS COMPANY
INCORPORATED
Factory and Main Office
SOUTH HACKENSACK, N. J.
Branch Office: 1327 BROADWAY, KANSAS CITY 6, MO.
CHICAGO • MINNEAPOLIS • DENVER • LOS ANGELES • BOSTON
CANADA: SEARS LTD.



This SKF Development, the Self-Aligning Printing Cylinder Bearing, provides press builders with a bearing having the largest possible bore and smallest possible outside diameter.

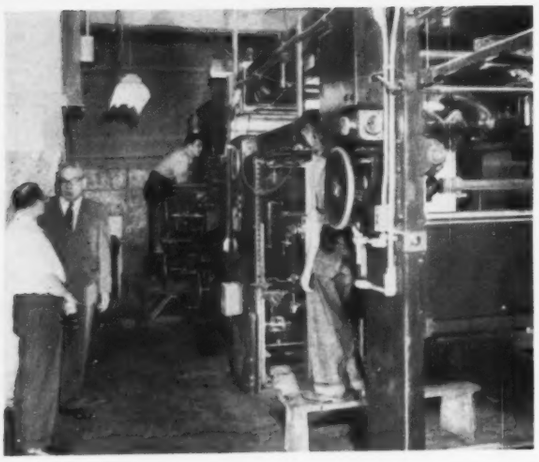
In addition, this spherical roller bearing design offers these extra advantages:

- Highest *capacity*, size for size, of any available bearing type.
- Self-alignment.
- Precision tolerances.
- Uniform pre-load.
- Torque-tested.
- Cool running.
- The first easy, damage-free hydraulic mounting and removal system.

More and more presses—black and color units; magazines presses; metal and paper offset presses, sheet and web fed; gravure presses—use the SKF Printing Cylinder Bearing to produce the finest work at highest speeds. 7421

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
—manufacturers of **SKF** *and* HESS-BRIGHT *bearings.*

SKF®
BALL AND ROLLER BEARINGS



Dittler Bros. Co., Atlanta, Ga., is one of the South's rotary conscious printing houses. Alex Dittler (foreground in shirtsleeves), President, is discussing installation of another 36 in. by 48 in. two-color Cottrell Rotary with John Springstead of C. B. Cottrell & Sons Co.

Ink Makers Elect

Louis W. Hraback, President of Sleight Metallic Ink Co., Chicago, was elected President of the National Assoc. of Printing Ink Makers, succeeding Morton E. Kapp, Superior Printing Ink Co., N. Y., at the group's annual meeting in Washington, D. C., June 1, 2 and 3. Others elected were Vice President John F. Devine, Sun Chemical Corp., Long Island City, and Fred A. Weymouth, Interchemical Corp., Printing Ink Div., Treasurer. Herbert B. Livesey, 1440 Broadway, N. Y., continues as Secretary. Speakers at the meeting included Raymond Blattenberger, U. S. Public Printer, and James Rudisill, First Vice President, Printing Industry of America.

Adopts Benefit Plan

The adoption of a retirement and benefit program for hourly wage employees was announced by J. W. Clement Co., Buffalo, N. Y., printing firm. The program provides for: Lifetime retirement income, life insurance, and some benefits in the event of termination of employment after certain minimum years of service. The widow of an employee will receive a monthly payment in addition to a lump sum death settlement. The plan was adopted through The Mutual Life Insurance Co., New York.

Work Simplification Item

A new use for permanent magnets to increase the speed and flexibility of glue-tipping machines for business forms has been developed by the Pierce Specialized Equipment Co. The Tipmaster glue-tipping machines, manufactured by Pierce, cuts set up time as much as 80 per cent by using Carboloy permanet magnets as feeding guides. The machine itself is used to place small spots of glue along the edge sheets of paper and one-time carbon paper as they are assembled into carbon snap-out business forms.

The small Carboloy magnets are embedded in round plastic bases. When placed on the steel-clad feed board of the Tipmaster the magnet guides form a three sided box, which holds the sheets as they are fed into the machine.

It is pointed out that the magnetic guides will be useful to printers or bindery plants that have many short run jobs of 500 to 5000 sets. Further information about either the Tipmaster or the Carboloy magnets will be cheerfully furnished by mentioning PEE No. 716 in your request.

The suggested use of these Carboloy Alnico permanent magnets for shiftable use on a business form glue tipping machine can be considered as a work simplification item.

SPEED PRODUCTION with RICHARDS
PLATE WORKING MACHINES
SAWS — ROUTERS MORTISERS
Flat and Curved Shell or Typhi
ELECTROMATIC STEREOTYPERS CIRCULAR SAW
SAVE PRESS TIME
Curved and Tubular Plate Enclosed Routers
ROUT OUT SMASHES
PATCH
SAVE PRESS TIME
(EMM) 'Electromatic' MORTISING MACHINES IN PEDESTAL OR BENCH MODELS
(PMRS) RADIAL ROUTER
Straightline And Fine Detail Routing
CODE (EST) 27 x 36 TABLE ALSO 32 x 42 (ESST)
Ask For Circulars
J. A. RICHARDS COMPANY, Kalamazoo 60F, Michigan

Commemorative Booklet

A commemorative booklet designed especially for Mrs. Beatrice Warde, executive of The Monotype Corp. Ltd., England, on the occasion of her recent visit to this country was presented to her by Robert F. Nelson, President of Lanston Monotype Machine Co., at a dinner in her honor. The booklet was also distributed as a souvenir for those attending Mrs. Warde's 1953 lectures in the United States and Canada. Entitled *Concerning Some Words by Beatrice Warde and Types by Varied Hands*, it features 11 pages of quotations from Mrs. Warde's writings, each planned by a different type designer and set by Monotype. A different kind of paper is used for every leaf. The booklet was printed by John Anderson, The Pickering Press, Maple Shade, N. J.

Books

(Continued from Page 53)

Offset Platemaking Bulletins

THE Lithographic Technical Foundation has recently made available three bulletins dealing with the following subjects: deep-etch plates, surface plates and physics in lithography. The first, Bulletin No. 804, is entitled *How to Make and Run Deep-Etch Plates on Grained Zinc*. This text is the result of information first published in 1934, revised during World War II and now brought up-to-date. It was prepared by Robert F. Reed of LTF's staff.

Pre-treatments and post-treatments of deep-etch plates is explained and illustrated in the bulletin. It also contains tables for exposure control which make possible the setting up of standard operating procedures for assuring uniform plates. A separate section in this publication is devoted to the handling of zinc deep-etch plates on the press.

LTF first issued *How to Make and Run Better Surface Plates on Zinc* in 1932 and later revised it in 1945. Since then, new techniques and methods for making zinc surface plates have been developed which are included in this latest bulletin, No. 805, written by Jack White. The recent developments in these plates discussed in the publication include pre- and post-treatments, new technique for applying etch, development of cellulose gum etch, the Sensitivity Guide, new information on pH, non-blinding lacquers, standardized graining procedures, etc.

The bulletin is divided into five main sections. One section provides detailed instructions and information on each platemaking step. Another section is devoted to the handling of well-made surface plates on the press.

The third publication is entitled *The Science of Physics in Lithography*. Containing 18 chapters, the text deals specifically with the problems faced by a lithographer. There are chapters on electricity, optical instruments, machines and liquids, heat, light, static electricity, and the atmosphere and its pressure. Under these headings are information on illumination, reflection, refraction, color, behavior of liquids, magnetism, heat expansion and transfer, and simple mechanics.

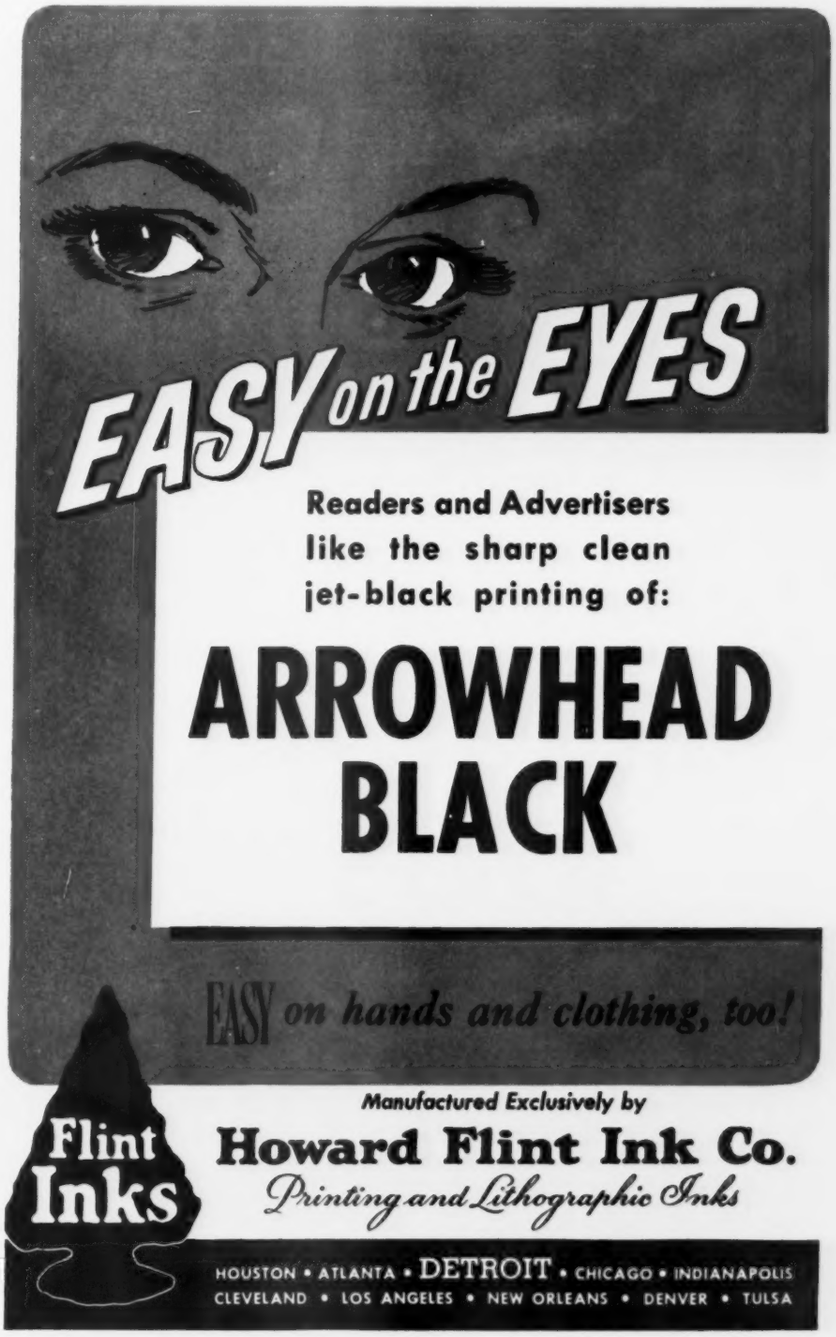
These three bulletins are available by writing direct to the Lithographic Technical Foundation, 131 E. 39th St., New York 16, N. Y.

EXECUTIVE Cs

The appointments of C. R. Edwards as Eastern Sales Mgr. and Phil Terry as Factory Representative of Nolan Corporation were announced recently by Ralph H. Nolan, President. Terry will operate in Pennsylvania, Delaware and New Jersey.

J. Wesley Lee was recently appointed Executive Vice Pres. of The Challenge Machinery Co. by the Board of Directors. Lee has been with the company about 40 years and for the past 35 has been vice president.

The Board of Directors of Super Speed Printing Machinery, Inc., Cleveland, announces the election of Carl F. Williams


EASY on the EYES
Readers and Advertisers like the sharp clean jet-black printing of:
ARROWHEAD BLACK
EASY on hands and clothing, too!
Flint Inks
Manufactured Exclusively by
Howard Flint Ink Co.
Printing and Lithographic Inks
HOUSTON • ATLANTA • DETROIT • CHICAGO • INDIANAPOLIS
CLEVELAND • LOS ANGELES • NEW ORLEANS • DENVER • TULSA

to the office of Vice President. Mr. Williams has for the past three years handled sales management of the firm. He joined the company in 1947 as advertising manager. In 1949 he assumed the duty of sales manager. Williams also assumes the duties of General Manager.

Dan Fisher, Secretary and General Mgr. of the Turner Printing Machinery, Inc., Cleveland, announces appointment of Robert A. Sperling as Advertising Manager of the firm. Sperling will be located at the home office of Turner Printing Machinery, Inc.

Edward Grodemange, Chicago Branch Mgr. and District Mgr. of Fuchs & Lang Mfg. Co., Div. of Sun Chemical Corp., died on June 5. Grodemange had been with the Sun organization since 1917.

A. E. Giegengack, until recently associated with the New Haven (Conn.) plant of Electrographic Corp., has been elected Vice President and a Director of Army Times Pub. Co., Washington, D. C. He will be in charge of all printing activities of the Army Times publications along with other management duties. He is a former Public Printer of the U. S., having held that title from 1934 to 1948 inc. The company publishes a number of weekly publications for the armed services with local and foreign editions.

Theodore Rosevelt, Technical Director of Sun Chemical Corp., died at the Grace-New Haven Hospital in Connecticut on July 1. Mr. Rosevelt was also a member of Sun's management committee. He is survived by his widow and two daughters.

Henry S. Hamilton (shown here) is now Assistant to Charles A. Mills in the Philadelphia territory of Miehle Printing Press & Mfg Co., announces Carlton Mellick, Vice Pres. in Charge of Sales. Hamilton's territory is in Pennsylvania, Delaware and Southern New Jersey.

Donald H. Neale has been appointed Manager of the Matrix Div. of Lanston Monotype Machine Co. Coincidental with the announcement, President Robert F. Nelson stated that Neale attended Rutgers University and N. Y. School of Graphic Arts. From 1951 Neale has been Asst. Manager of American Type Founders' Type Merchandise Dept.

Charles H. Merbitz has been appointed Eastern Sales Manager of United American Metals Corp., according to announcement made recently by President William H. Street of that company. Merbitz's headquarters for the present are at the corporation's home office, 193 Diamond St., Brooklyn 22, N. Y.

Benjamin Sugarman of Consolidated Photo Engravers & Lithographers Equipment Co., Div. of Consolidated-Hammer Dry Plate & Film Co., on June 26 sailed on the ocean liner *United States* for a business trip through Europe. It is expected he will travel in England, Belgium, Germany, Italy, Israel, Switzerland and France. The company maintains offices and manufacturing facilities in Frankfurt, Germany.

Joseph Wertheimer, President of Turner Printing Machinery Co., Inc., recently returned from a trip through Europe where he made a survey of the Graphic Arts products offered by European manufacturers. His two-month trip took him to England, Sweden, Germany, France and Italy. Wertheimer has announced that Turner plans an exhibition of printing machinery in the Cleveland and Chicago plants during October when several European machines will be shown.

Mr. and Mrs. Francis H. Grenier have opened and are operating a resort hotel called The Captain's Place, in Brewster on Cape Cod, Mass. The building is located on the Bay side of the Cape on U. S. Route 6 (Breakwater Road). The building was erected in 1862 by Captain Freeman from materials brought from England in the captain's own vessel. All rooms are for double occupancy. Mr. Grenier is connected with New England Fibre Blanket Co.

LITHO SUPPLY DEPOT* PLACES MORE THAN 33 COLIGHTS IN 5 MONTHS!

"Over 57 COLIGHT Exposure Units have been sold by us during the past two years. Every one of these users is an enthusiastic booster. Why? Because the COLIGHT enables them to make offset plates right in their own shop and save time and money."

"During that time, our sales of presensitized plates have soared because the COLIGHT makes it possible for our customers to use them — practically, simply, and inexpensively." This aggressive offset supply dealer, *Litho Supply Depot, Minneapolis, Minn., has seen at first hand what a wonderful advantage the COLIGHT Exposure Unit affords the operator of Multilith, Davidson, Webendorfer, and Harris (17 x 22) press equipment. He knows from close association that the COLIGHT places these operators in a better profit and competitive position.

Colight TRADE MARK

EXPOSURE UNIT

- Completely self-contained. No other equipment needed.
- Requires only small table for use.
- No extra, skilled help required. Anyone can operate.
- Small investment—low operating cost —big savings.
- Ideal for using presensitized plates. (Also exposes albumin coated plates.)

COLWELL LITHO PRODUCTS, INC.
Colight PRODUCTS
616 Fifth Avenue South
MINNEAPOLIS 15, MINN.

ASK FOR DEMONSTRATION

Call the nearest COLIGHT dealer, or write us for descriptive, illustrated literature and a practical demonstration. COLIGHT Exposure Units are sold in the U. S. by Davidson Sales & Service Agencies, Special Products Division Harris-Seybold Co., Sun Supply Co., Roberts & Porter, Inc., and many other equipment and supply dealers . . . IN CANADA by Manton Bros., Ltd. and Harris-Seybold (Canada) Ltd. . . . Export through International Division, Minnesota Mining & Mfg. Co., 122 E. 42nd St., New York, N. Y.

Conference Dates

(With Organization Names and Principal Officers)

American Photoengravers Assoc. — 1953 Conv., Hotel Statler, Boston. Oct. 12,13, 14. Pres. D. H. Murnik, Oakland National Engraving & Gravure Co., Oakland, Calif. Frank J. Schreiber, Exec. Secy., 166 W. Van Buren St., Chicago 4.

ANPA Mechanical Conf. — 1954 Conf., Chalfonte-Haddon Hall Hotel, Atlantic City, N. J., June 7, 8, 9, 10. Chairman of the Committee, William E. Gibbons, Production Mgr., Portland (Ore.) *Journal;* Mgr.,ANPA Mechanical Dept., Vernon R. Spitaleri, 370 Lexington Ave., New York 17, N. Y.

Book Manufacturers' Institute — Greenbrier Hotel, White Sulphur Springs, West Va., Sept. 21-23. President, Sidney Satenstein, American Book-Stratford Press, 75 Varick St., New York 13, N. Y.; J. Raymond Tiffany, General Counsel, 25 W. 43rd St., New York 18, N. Y.

Fifth District Craftsmen's Conf. — Secy.-Treas., Robert Wolf, Richardson-Taylor-Globe Co., 4501 Mitchell Ave., Cincinnati 32, O.

Graphic Arts Trade Assoc. Executives — Pres., Robert Hostetter, Printing Industry of Pittsburgh, 3124 Jenkins Arcade Bldg., Pitsburgh 22, Pa.

Gravure Technical Assoc. — 1954 Annual Meeting, Hotel Biltmore, New York, N.Y., Feb. 3, 4, 5. Pres. John E. Hazel, New York *Daily News*, 700 Pacific St., Brooklyn 17; Secy.-Treas., Frank Sportelli, International Color Gravure, 39 W. 60th St., New York 23, N. Y.

Great Lakes Newspaper Mechanical Conf. —1954 Conf., Claypool Hotel, Indianapolis, Ind., Jan. 10,11,12. Pres., Horace Parker, Press and Stereotype Fm., Richmond (Ind.) *Palladium-Item;* Secy.-Treas., Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press;* Chairman Mfrs. and Suppliers Committee, Joseph W. Kaercher, Linotype Representative, 5311 Broadway, Indianapolis, Ind.

Calendar Carries Picture and Map Execution—Two symbols of the Graphic Arts are blended into one illustration in Harris-Seybold Co.'s midyear calendar, recently received by many printing firms. The colorful painting for the calendar actually is a picture-map interpreting *The Adventures of Tom Sawyer* by Mark Twain. It was executed by Everett Henry, illustrator and cartographer. A complete redesign of the typography improves legibility. The calendar was produced by Brown & Bigelow Co., St. Paul, Minn., on a two-color Harris offset press on 50% rag content ivory stock, measuring approx. 27 in. by 31 in. A few calendars, states Harris-Seybold, still are available, including some prints of Mr. Henry's painting suited for framing. Until the supply is exhausted, a copy of either calendar or print may be obtained by writing Harris-Seybold Co., Cleveland 5, O.

Hoosier State Press Mechanical Conf. — Union Bldg., Purdue Univ., Lafayette, Ind., September 19 and 20. Dale C. Thompson, Exec. Chairman, Indianapolis Newspapers, Inc., Indianapolis, Ind.

Illinois Newspaper Mechanical Conf. — 1953 Conf., Hotel Jefferson, Peoria, Ill., Sept. 26,27. Pres., Thomas Lowry, Peoria (Ill.) Newspapers, Inc.; Secy.-Treas., Wilbur L. Augspurger, Peoria (Ill.) Newspapers, Inc.; Chairman Mfrs. and Suppliers Committee, Joseph D. Goggin, Newspaper Publishers Supply Co., 1639 N. Lorel Ave., Chicago 39.

Intl. Assoc. Electrotypers & Stereotypers—1953 Conv., Statler Hotel, Detroit, Sept., 23,24,25. Pres., Walter C. Dohm, Norman-Dohm O'Flaherty Co., Inc., 228 E. 45th St., New York, N. Y.; A. P. Schloegel, Exec. Secy., 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen — 1953 Conv., Adolphus Hotel, Dallas, Tex., Sept. 13,14,15,16. Convention for 1954 to be held in Philadelphia, dates to be announced. Pres., Gordon J. Holmquist, Cole-Holmquist Press, 1228 S. Flower St., Los Angeles; Exec. Secy., Pearl E. Oldt, Rm. 806, Transportation Bldg., 307 E. Fourth St., Cincinnati 2, O.; Convention Chairman, Homer L. Green, Wilson Engraving Co., 2117 Commerce St., Dallas 1, Tex.

Intl. Graphic Arts Education Assoc.—1954 Conf., University of Colorado Campus, Boulder, Colo., early in July, exact dates to be announced later. Pres., Patrick F. Boughal, New York School of Printing, 461 Eighth Ave., New York 1, N. Y.; Exec. Secy., Samuel S. Burt, 719 Fifteenth St., N. W., Washington 5, D. C.

Intl. Typographic Composition Assoc. — 1953 Convention, Mayflower Hotel, Washington, D. C., Sept. 2,3,4,5. Pres., John R. Connell, Connell Typesetting Co., 302 E. Eighth St., Kansas City 6, Mo.; Frank M. Sherman, Exec. Dir., 1015 Chestnut St., Philadelphia 7.

Iowa Daily Newspaper Mechanical Conf. —Secy.-Treas., Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald*.

Kansas-Missouri Newspaper Mechanical Conf. — 1953 Joint Conf., Town House, Kansas City, Kan., Sept. 12,13. Pres., William Lawrence, Wichita (Kan.) *Eagle*; Secy.-Treas., Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kan.; Secy., William Bray, Missouri Press Assoc., Walter William Hall, Columbia, Mo.

Lithographers National Assoc. — 1954 Conv., The Greenbrier, White Sulphur Springs, W. Va., June 8,9,10. Pres., William H. Walters, President, United States Printing and Lithograph Co., Old Country & Glen Cove Rds., Mineola, L. I., N. Y.; Exec. Dir., W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Mid-Atlantic Mechanical Conf.—1954 Conf., Penn Harris Hotel, Harrisburg, Pa., Mar. 18, 19, 20. Jointly sponsored by the New Jersey Press Assoc. and the Pennsylvania Newspaper Publishers Assoc. Conf. Dir., Theodore A. Serrill, PNPA General Mgr., 209 Telegraph Bldg., Harrisburg, Pa.

National Assoc. of Litho Clubs — 1954 Conv., Hotel Biltmore, New York, N. Y., May 7,8. Pres., Andrew Balika, Supt., Copifyer Lithograph Corp., 1771 E. 24th St., Cleveland; Exec. Secy., Sol D'Allesandro, Supt., Horn & Norris, Inc., 2729 Prospect Ave., Cleveland.

National Assoc. of Photo-Lithographers—1953 Convention, Sheraton Hotel, Chicago, Oct. 28,29,30,31. Pres., A. J. Fay, 75 Varrick St., New York, N. Y.; Exec. Vice Pres., Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Printing Equipment Assoc., Inc. —1953 Meeting, Shoreham Hotel, Washington, D. C. Directors meeting, 8 p.m., Oct. 6; members meeting, Oct. 7, 10:30 a.m. Pres., Fred S. Tipson, T. W. & C. B. Sheridan Co., 135 Lafayette St., New York 13, N. Y.; Secy., James E. Bennet, 140 Nassau St., New York 38, N. Y.

National Safety Congress, Printing and Publishing Section Meeting — Conrad Hilton Hotel, Chicago, Oct. 20, 21. R. L. Forney, Gen. Secy., National Safety Council, 425 N. Michigan Ave., Chicago, Ill.

New England Mechanical Conf. — 1953 Conf., Hotel Statler, Boston, Oct. 17,18. Pres., Charles W. Noonan, Pressroom Supt., Providence (R. I.) *Journal-Bulletin*; Secy.-Treas., Walter C. Crighton, Comp. Room Supt. New London (Conn.) *Day*.

Northwest Mechanical Conf.—1954 Conf., Radisson Hotel, Minneapolis, Minn., Feb. 27,28, and March 1. Pres., John R. Copeland, Production Mgr., Minneapolis (Minn.) *Star* and *Tribune*; Secy.-Treas., Ralph Carson, Dunwoody Industrial Institute, Minneapolis, Minn.

Pacific Mechanical Conf. — 1953 Conf., Statler Hotel, Los Angeles, Sept. 25,26,27. Pres., Al Tennyson, Comp. Room Supt., Los Angeles *Times* and *Mirror*; Secy. for North, Edw. N. Conley, Color Press Fm., San Francisco *Chronicle*; Secy. for the South, Fred J. Moyer, Los Angles *Daily News*.

Printing Industry of America—1953 Conv. Shoreham Hotel, Washington, D. C., Oct. 5,6,7,8. Pres., John M. Wolff, jr., Western Printing & Lithographing Co., Southwestern Div., 1310 S. Spring St., St. Louis, Mo.; James R. Brackett, General Mgr., 719 Fifteenth St., N. W., Washington, D. C.

Research and Engineering Council of the Graphic Arts Industry, Inc. — Makeready Meeting No. 2, Hotel Sheraton-Gibson, Cincinnati, O., Oct. 1, 2, 1953; Second Technical Conf. on Color Photography and Color Separation, Hotel Statler, Los Angeles, Nov. 30 and Dec. 1, 1953; 1954 Membership Meeting, May 11 and 12; 1955 meeting, May 12 and 13, city and hotel to be announced later. Pres., Ed-

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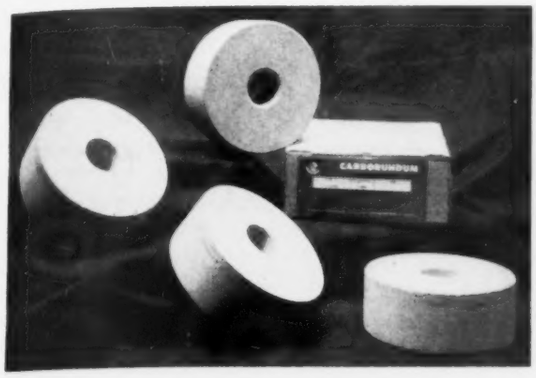

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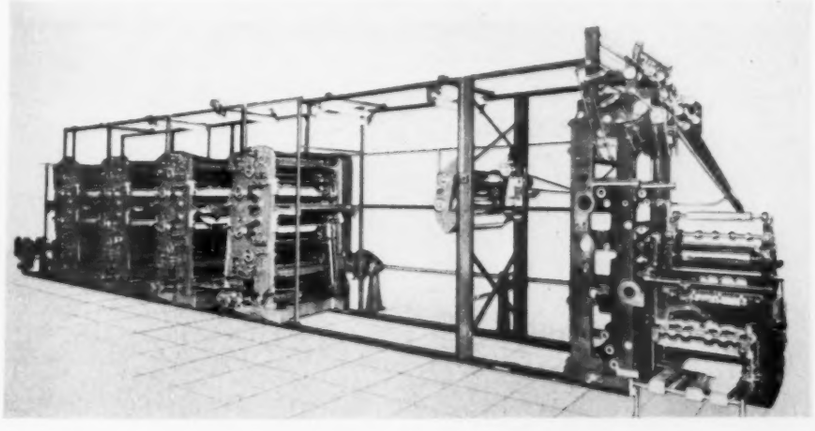
ward J. Triebe, Kingsport Press, Kingsport, Tenn.; Managing Director, Bernard J. Taymans, 719 Fifteenth St., N. W., Washington 5, D. C.

Screen Process Printing Assoc.—1953 Conv., Statler Hotel, New York, N. Y., Nov. 1,2, 3,4. Pres., Joseph Grossman, Masta Displays, Inc., 230 W. 17th St., New York 11, N. Y.; Secy., Dan Novak, 549 W. Randolph St., Chicago 6.

SNPA (Eastern Div.) Mechanical Conf.—1953 Conf., Henry Grady Hotel, Atlanta, Ga., Aug. 24,25. Conf. Chairman, C. Leroy Ray, Mechanical Supt., Winston-Salem (N. C.) *Journal* and *Sentinel;* Secy., Ray B. Crow, Southern Newspaper Publishers Assoc., P. O. Box 1569, Chattanooga 1, Tenn.; Chairman of Mfrs. and Suppliers Group, Joseph F. Schuman, Mergenthaler Linotype Co., 300 Luckie St., N.W., Atlanta, Ga.

SNPA (Western Div.) Mechanical Conf.—Chairman, Palmer Black, Mechanical Supt., Amarillo (Tex.) *Globe-Times;* Secy., Walter Johnson, jr., P. O. Box 1569, Chattanooga 1, Tenn.; Chairman of Supplymen's Committee, Karl E. Ponath, Mgr., Mergenthaler Linotype Co., 514 Browder St., Dallas 1, Tex.

Technical Assoc. of the Graphic Arts — Pres., Richard F. Shaffer, Pratt Institute, 215 Ryerson St., Brooklyn 5, N. Y. Secy.-Treas., Paul J. Hartsuch, Printing Ink Div., Interchemical Corp., 161 W. Harrison St., Chicago 5.



ATF Press for Indonesia — The Mount Vernon Div. of American Type Founders is installing a four unit perfecting web-fed offset press in the Government of Indonesia Printing Plant at Djakarta. The press prints four colors on both sides of the web simultaneously and is equipped with a magazine and sheeter-folder which will turn out signatures in newspaper, tabloid, magazine and pocket book size, or deliver flat sheets. The cylinder circumference of the press is $22\frac{3}{4}$ in. and the max. web width is 35 in.

Recent Equipment Reports

Steck Company Installation

The installation of a Four-Color Harris Offset Press at the Steck Company, Austin, Tex., has been reported in a joint announcement made by E. W. Jackson, President of Steck, and Ren R. Perry, Vice Pres. for Sales of Harris-Seybold Co. To publicize the new press and other modern equipment used by the Steck firm, a 20 page multicolor booklet, $10\frac{1}{2}$ in. by $14\frac{1}{2}$ in., was published for distribution to customers and friends of the company. Containing a variety of fine papers and illustrated with some of Steck's color work, the booklet's center spread includes a full-color illustration of the 42 in. by 58 in. Harris press. Other equipment shown in the booklet includes the Mann and Harris 35 in. by 45 in.

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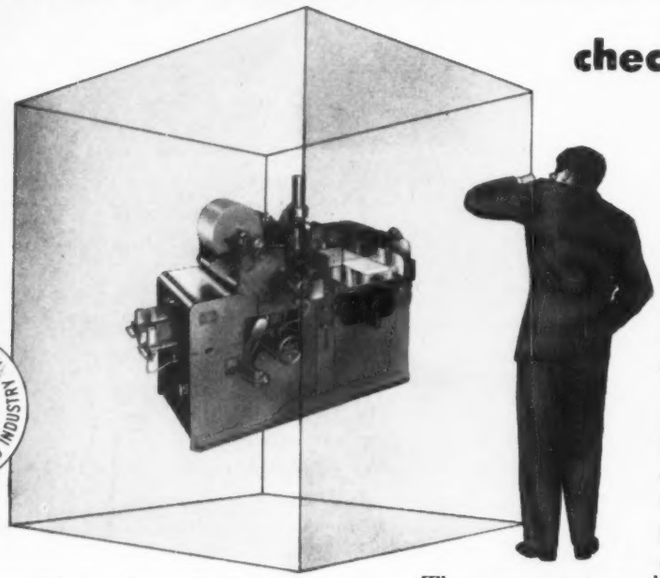

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Large G-E Installation

The Philadelphia *Evening* and *Sunday Bulletin* will install more than $500 thousand worth of G-E printing press equipment in its new plant, announces General Electric Co. The new *Bulletin* facilities, expected to be completed in 1955, will complement its Filbert St. plant and its color comic printing equipment now being used for the Sunday editions. The G-E electronic equipment will power 63 Hoe printing press units and 12 folders.

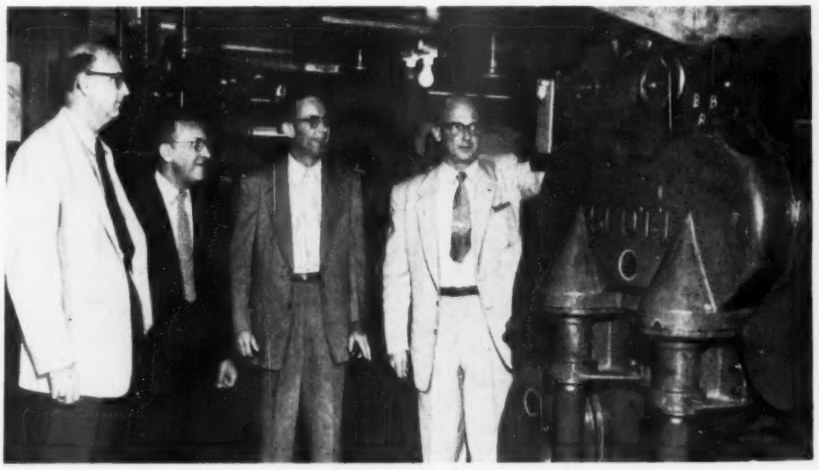
The press drive equipment is composed of 12 ignitron rectifiers, which change alternating current to adjustable-voltage direct current, amplistat regulators, and 75 enclosed and separately-ventilated 40 h.p. d.c. motors. Two banks of transformers and switchgear as part of the press drive load-center equipment will also be supplied.

Harris Rotary Installation

Two 45 in. by 65 in. Harris Two-Color Rotary Letterpresses have been installed by Universal Folding Box Co., Hoboken, N. J., it has been announced by Stanley I. Batkin, Vice Pres. of Universal. The presses are equipped with a double-pile delivery system permitting unloading of printed sheets without stopping the press. According to Batkin, this second phase of Universal's expansion program cost approx. a quarter of a million dollars.

Rosback Installations

Recent installations of Rosback bindery equipment reported by the F. P. Rosback Co. are as follows: *Auto-Stitchers*—Pacific Bindery, Oakland, Calif. (installed by Harry W. Brintnall Co.); United Printing Service, Inc., New Haven, Conn. (installed by E. P. Lawson Co., Inc.); Masonic Home of Georgia, Macon, Ga. (installed by Harris-Seybold Co.); Unique Printers & Lithographers, Chicago (installed by Western Newspaper Union); Greenlee & Co., Inc., Chicago (installed by American Type Founders, Inc.); McCleery-Cumming Co., Inc., Washington, Ia. (installed by Western Newspaper Union); Davidson Co., St. Joseph, Mich. (installed by Continental Printing Equipment Co.); F. J. Stroup Printing Co., Detroit (installed by American Type Founders, Inc.); Purser Bros.,



First run of Scott Press—The Johnson City (Tenn.) *Press-Chronicle* was printed for the first time on a new two-unit 32 page Scott press, on June 28. General Mgr. T. W. Atkins and Mechanical Supt. A. W. Keller handled details of press purchase and installation. In this illustration are shown (left to right): Mr. Atkins; Director J. F. Clark; Vice Pres. H. L. Jones, and Pres.-Treas. Carl A. Jones.

Jackson, Miss. (installed by E. C. Palmer Co., Ltd.); Thatcher-Anderson Co., New Brunswick, N. J. (installed by Globe Printers Supply); Saratoga Printing Co., Saratoga Springs, N. Y. (installed by Western Newspaper Union); Grossenbacher Bros., Portland, Ore. (installed by Harry S. Hill); Edward Stern & Co., Inc., Philadelphia (installed by American Type Founders, Inc.); Superior Bookbinding Co., Philadelphia (installed by E. C. Fuller Co.); and Sowers Printing Co., Lebanon, Pa. (installed by American Type Founders, Inc.). *Gang Stitcher*—Hennage Lithographing Co., Inc., Washington, D. C. (installed by American Type Founders, Inc.). *Special Six Punching Machines*—Ravner Lithographing Co., Chicago (installed by Western Newspaper Union); and Wagaman Bros., Lititz, Pa. (installed by American Type Founders, Inc.). *"Twenty-two Special" Slot Rotary Perforators*—Younker Bros., Des Moines, Ia. (installed by Western Newspaper Union); Butlers, Inc., Lexington, Ky. (installed by American Type Founders, Inc.); and Yale Bros., Inc., Waynesfield, O. (installed by Kalamazoo Printing Machinery Co.). *Pony Vari-Speed Rotary Perforators*—H. L. Feiersisen, Cedar Rapids, Ia. (installed by Gane Bros. & Lane, Inc.); Arcade Bookbinding Co., New York, N. Y. (installed by Zimmer Printers Supply Co., Inc.); Wm. Lilienthal Co., Cambridge, O. (installed by Western Newspaper Union); Bindery Service, Tulsa, Okla. (installed by Western Newspaper Union); Garvin-Bonner Co., Dallas, Tex. (installed by Western Newspaper Union); and Roark Printing Co., Texarkana, Tex. (installed by Roach Printers Supply Co.). *Super XX Heavy Power Perforator*—Addison-Wesley Printing Corp., Cambridge, Mass. (installed by Wild & Stevens, Inc.).

Equipment & Supplies

(Continued from Page 30)

presses. The Oxy Neutralizer Bar for eliminating static is designed for installation either above or below the sheet or web as required. Illustrations are included in the bulletins of all this equipment installed on various pieces of printing plant machinery. These bulletins may be obtained by asking for PEE No. 664 in your letter or postcard.

Roll Leaf Color Chart

METALLIC shades, special panel colors, genuine gold and pigment colors of stamping leaf are shown in a color chart prepared by Ralph W. Grauert, Inc. Most of the specimens shown are made on glassine, acetate and cellophane to suit a variety of stamping needs from heavy designs to fine line designs, pencils, plastics, etc. The stamping leaf is used for stamping on paper, plastics, leather, etc., with a hot stamping press. Copies of the color chart may be obtained by mentioning PEE No. 672 in your request.

Hot Melt Adhesive

NATIONAL ADHESIVES has announced a vinyl type of hot melt adhesive for perfect binding called Book-Lok 63R. Sponsor claims good penetration, strong page grip, toughness and low basic viscosity for the hot melt adhesive. In addition, National states Book-Lok 63R does not give off objectionable odors and is of light color. Modifications incorporating the basic advantages of this type of vinyl are being developed by National for various machines. Further information may be obtained by mentioning PEE No. 700 in your request.

Lubricator Bulletin

A TWO-COLOR, four page bulletin in which is described the operation and application of the Type E Solenoid-Operated Lubricator has been issued by the Bijur Lubricating Corp. The unit is adaptable to many types of equipment, including printing machinery. The bulletin contains several illustrations of the lubricator, as well as a diagram showing its various parts. Complete details on the Type E unit appeared in the May 1953 issue of *Printing Equipmen Engineer*. Copies of the bulletin are available by mentioning PEE No. 701 in your request.

Materials Handling Catalog

BARRETT-CRAVENS CO. has revised and issued a new edition of its pocket-size catalog containing information, illustrations and specifications of materials handling equipment. The 100 page catalog includes descriptions of forktrucks, high lift electric trucks, pallet trucks, skids, stacking frames, steel storage racks, hand trucks, etc. Added to its contents since the previous edition are Hi-Lift electric trucks in platform and fork types, Barrett hydraulic lift trucks, Radox radio remote controlled electric trucks and the Lift-A-Loft for overhead

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Invitation To Readers

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Other executives will appreciate the assistance you will have given them.

Just write informally in a letter and send a photo or rough pencil sketch if illustration is required to MacD. Sinclair, Editor, *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13, O.

maintenance. Copies of the catalog may be obtained by mentioning PEE No. 705 in your request.

Rubber Plate Manual

RUBBER Plate Manual for the Graphic Arts has been prepared by Roto-type Corporation. This illustrated 24 page book contains information for makers and users of rubber printing plates. Content is as follows: Decimal Equivalent Chart, Photoengravings for Rubber Plates. Purchase order Specifications, Preparation for Art Work, Rubber plates, Pre-makeready, Cylinder Mounting Service, Filing Service, Mounting Plates, Cements and Recommended Applications, Gear and Cylinder Chart, Aniline or Flexographic Process. A copy of this bulletin may be obtained by mentioning PEE No. 682 in your request.

Steel Strapping Bulletin

EQUIPMENT and materials for applying steel strapping to crates, boxes, cases, bundles, pallets and carloads is discussed in the *Blue Book of Packaging* issued by Gerrard Steel Strapping Div., United States Steel Co. An important table in the 24 page bulletin shows the number and gauge of straps to be used with each box having the various indicated lengths and gross weights. Steel strapping machines designed for different kinds of packaging and bundling are illustrated and described. Please mention PEE No. 677 when requesting a copy of this bulletin.

Hydraulic Rotating Device for Trucks

A HYDRAULICALLY-operated load revolving mechanism for use on Elwell-Parker hydraulic fork trucks has been developed by the Elwell-Parker Electric Co. The unit, which permits 360 deg. rotation, is designed for use in conjunction with fork truck attachments:

forks, roll paper clamps, up-enders and other load supporting devices. Trucks so equipped are suited for discharging contents from skid bins and other containers, for positioning loads for storage, etc.

The unit's stationary housing attaches to the truck's load elevator plate. A rotating base, to which is fastened the desired load supporting device, is mounted on the stationary base. Two large-diameter taper roller bearings permit the base to rotate freely yet provide support for the cantilever load.

Power is supplied by a gear type hydraulic motor with an integral worm gear reduction unit. A large-diameter external tooth ring gear attached to the rotating base is driven by a pinion gear on the reduction unit shaft. Additional information may be had by mentioning PEE No. 726 in your request.

Paper Cutter Bulletins

FOUR bulletins concerning machines for cutting and trimming paper stock have been prepared by the E. P. Lawson Co. The bulletins contain illustrations, descriptions and specifications of the following equipment: 39 in. Heavy Duty Automatic Clamp Cutter, 46 in. and 52 in. Hydraulic Clamp Automatic Cutters, Electronic Spacer, and Automatic Three-Knife Rapid Trimmer. All four bulletins are printed in red and black and include features of each respective machine. The various operations performed by each machine, as well as the maximum and minimum size work each will handle, are included in the informational sections of this technical literature. All four bulletins may be obtained by asking for PEE No. 675 in your letter to *Printing Equipment Engineer*.

Motors and Generators

ILLUSTRATIONS and descriptions of Century a.c. and d.c. motors and generators are presented in an eight page, two-color bulletin available from Century Electric Co. One section of the bulletin contains a chart listing the electrical and mechanical forms in which Century motors are available. Functional character of load to be driven and examples of typical equipment best suited for various motors form part of the information given in

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this chart. Another chart deals with specifications for a.c. and d.c. generators, as well as motor generator sets. Please refer to PEE No. 671 if you desire a copy of this bulletin.

Alquist Winder Bulletin

THE Hobbs Alquist Winder is described in a two page bulletin prepared by Hobbs Mfg. Co. The machine is designed for winding paper, plastic, foil, textiles and similar materials. Detailed information on the winder appeared in the June 1953 issue of *Printing Equipment Engineer*. A copy of the bulletin may be obtained by asking for PEE No. 712 in your request.

Platen Type Cutter-Creaser

IN a six-page bulletin, offered by Champlain Co., Inc., are pictured and described the platen type cutter-creaser. It is used in line with rotary press equipment. It cuts, creases and strips cardboard fed to it on a roll to form carton blanks for packaging soap, king-size cigarettes and such items. Information is given on production rates, types of stripping, die costs, accuracy, stock handling, set-up time, maximum web widths, minimum lengths of impression, operating speeds, floor space taken up, weights and impression force. Other pertinent information, including diagrams, is given. Please mention PEE No. 711 in your request.

Stelcon Floor Folder

ARMCO Drainage & Metal Products, Inc., has issued a 4-page illustrated folder on its Stelcon anchor floor plates. Pictures of typical industrial installations are shown. Copies may be had by mentioning PEE No. 709 in your request.

Douthitt Equipment Catalog

DOUTHITT platemaking equipment for photoengraving, offset and gravure plants is listed along with descriptions, illustrations and specifications in a 16 page catalog available from the Douthitt Corporation. Among the equipment included in the catalog are temperature controlled sinks, ink-up tables, layout tables, vacuum printing frames, developing tanks, plate whirlers, burning-in stoves and accessories for cameras. The catalog may be obtained by mentioning PEE No. 694 in your request.

Sta-Hi Matcher Bulletin

THE Sta-Hi Master Matcher, a machine for registering stereotype color mats, is illustrated and described in a three color, four page bulletin prepared by the Sta-Hi Corporation. It contains an explanation of the steps necessary in obtaining color register from stereotype mats and points out the different parts of the machine used in accomplishing this. The bulletin also devotes some of its information to the Sta-Hi Master Trimmer which can be used effectively with the Matcher. Complete details on the operation of the machine appeared in the June 1953 issue of *Printing Equipment Engineer*. Please mention PEE No. 706 if you desire a copy of the bulletin.

Wire Stitcher Bulletin

THREE models of the New Jersey wire stitching machine for printers and bookbinders are the subject of a bulletin recently released by the New Jersey Wire Stitching Machine Co. Model No.'s 4, 9 and 2 are discussed with speeds of 110, 135 and 175 stitches per min. respectively. Two of the machines will stitch both flat and saddle work while the other machine is designed for handling flat work only. When writing for a copy of this bulletin, please refer to PEE No. 676.

Control Instruments Catalog

A CATALOG of control instruments for furnaces, ovens, dryers and kilns has been published by The Bristol Company. The catalog features Electronic Dynamaster potentiometer and millivoltmeter type pyrometer controllers, recorders and indicators. A variety of electric, air-operated, and electronic control instruments for use with fuel-fired and electric heating equipment of all types are also listed. The catalog is illustrated with pictures and diagrams of various control arangements and dimension sketches. Copies are available on request by asking for PEE No. 699.

Bearing Mounting and Removal

A HYDRAULIC system for bearing mounting and removal is the subject of a bulletin prepared by SKF Industries, Inc. Using a hydraulic line, oil is forced between the shaft and the bearings. Pressure of the film of oil floats the inner ring, breaks the fit so that the bearing slides off safe from damage to bearing or equipment. The same system is said to simplify the mounting of tapered bore bearings on tapered shaft seats. Practical applications, including use of the system on printing presses, are given in the bulletin. Please refer to PEE No. 702 when writing for a copy of this literature.

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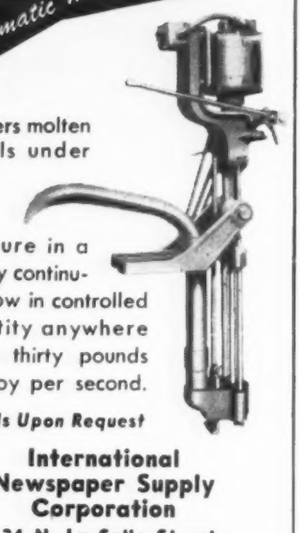

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AN ELECTRONIC adjustable-speed drive of from ¾ to 3 h.p. designed for powering a wide range of small industrial equipment is described and illustrated in a 12 page bulletin prepared by Reliance Electric & Engineering Co. Ten operating functions and performance features of the Reliance V*S Jr. drive are listed. A number of typical applications of the Junior model are also shown. In addition, the bulletin contains optional equipment and accessories, dimensions and drive characteristics of the V*S Jr. It is available in five different horsepower ratings. If copies of this bulletin are desired, please mention PEE No. 657 in your request.

Oxford Type From Historic Matrices

A SMALL production quantity of extremely scarce Oxford and Oxford Italic type has been cut at American Type Founders from historic matrices. Sixty job fonts of 12 pt. roman—caps, lowercase and figures—and a lesser quantity of italic, in lowercase and caps only, is available. The type was designed 157 years ago by Archibald Binny. ATF states that if sufficient interest develops in Oxford, preparation of duplicate matrices may be undertaken.

Please mention PEE No. 724 in your request.

Research

(Continued from Page 35)

The Monomelt Hydrocast machine provides a unit-casting technique for each shell. The cast is subjected to a slight pressure during the solidification of the molten electrotype metal. Finishing operations are decreased by this machine and the casting processes previously mentioned.

The Bishop Consoleveler is an interesting new finishing machine for flat electrotypes and is performing satisfactorily in several electrotype foundries. An effective leveling of the printing plate surface is achieved.

Makeready costs are being eliminated or drastically reduced in folding-box and container printing through the use of treated electrotypes. These plates are supplied with makeready incorporated in their surface. The Bishop-Stansell material is being utilized for the preparation of the face and back masks to effect the desired plate treatment.

Efforts to reduce the weight of electrotypes and increase their mechanical strength, especially for curved plates, have met with some success. Time, Inc., has developed a process whereby a thin, curved electrotype, about 0.087 in. thick, is attached to a curved aluminum backing sheet, about 0.160 in. thick, by means of a thermosetting adhesive sheet, about 0.003 in. thick. The resultant plate is rigid, does not break on the press, is quickly and accurately clamped, and holds its position and shape during printing. Other metals for the backing have been tried and some have been successful. The additional application of a tension lock-up to such plates makes possible a reduction in the margins on the printed sheet. A similarly constructed plate may have advantages for box and carton printing on flat-bed presses.

Flexographic Printing

A procedure developed for printing books from rubber plates would seem to have possibilities for box and carton rotary printing. The individual molded-rubber plates, containing from one to four pages, are mounted in accurate position on a sheet of zinc. The zinc is then placed around the plate cylinder of the press in the same manner that an offset-lith plate is attached. The plates are carefully made, and accuracy and uniformity of thickness are obtained by grinding the backs of the molded-rubber plates.

Polyethylene is now being printed successfully with inks that will trap and will not rub off. The formulation for the ink was a research development. Studies are being continued to permit a wider variety of colors and formulations of inks to be used with the increasing number of plastic-film materials desired for packaging. Most colorful and exciting results are being produced on plastic films with gravure printing.

Gravure Processes Advance

Gravure printing processes are experiencing a proportionately higher percentage of increase in sales volume than letterpress or offset lith. This is particularly true in the packaging industry. The process is used extensively in printing plastic-film materials and plastic laminates, metal foils, and foil laminates. Package wraps and labels, cartons, boxes, decalcomanias, glass and plastic containers, and ceramic items are a few of the applications for gravure. Gravure is the chief process used in printing and decorating textiles. All of these uses for gravure are in addition to its place in the publishing, direct advertising, and specialty printing fields. Gravure has been found equally effective at high speeds on

(Continued on Page 68)

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1	9	Cent. Exp. with Cent. Bold (1721)	30.00
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The earliest application of gravure printing in packaging was on specialty stocks, such as glassine, cellophane, and foil. These materials were fed to the press from a web and rewound after printing. The gravure process is suited for such materials because of the quality of printing obtainable, the advantage of the quick drying of gravure inks, and the higher speeds of printing possible.

The gravure process has been proved to be suited to the printing of boxboard. The process transfers ink under pressure on a rough surface. Within the past few years this has been responsible for one of the fastest growing applications of gravure printing in packaging. The advantages of quick-drying, high-speed rotary printing and quality of printing on boxboard have been augmented by the use of in-line equipment. The stock is fed into the press from a roll, and in one continuous pass through the press it is printed, die-cut, mechanically stripped, and delivered as folding boxes.

In the photomechanical operations of gravure a number of valuable developments are of interest to gravure producers or processors. Among these are the controlled processing of carbon tissue, improved production of copper-plated gravure cylinders, DuPont Ortho Rotofilm as a substitute for carbon tissue, and chromium plating to extend the printing life of cylinders.

The Henderson process has been successfully used by Marathon, Kimberly-Clark, and Shellmar. This process provides means for coating the cylinder with a photo-resist, photoprinting, developing the coated cylinder, and etching. The use of carbon tissue is eliminated. It is said to yield particularly fine results for tints and solids.

Offset Lith Progress

Lithography continues to benefit from the results of effective research studies on various phases of the process. The research-mindedness of the lithographic industry has paid off in a big way.

The work produced for the packaging industries by offset-lith has exhibited an improvement in quality. Longer press runs have been made possible through the use of bi-metallic plates. Color separations are better because of the utilization of improved photomechanical developments and techniques, such as masking, contact screens, and precision photocomposing devices. The manufacture of offset plates is now subject to close control. A high degree of predictability and reproducibility of quality in plate making has been made possible as a result of the work of the Lithographic Technical Foundation. This general increase in the quality of offset plates is apparent in printed results.

Bimetal plates, such as the Lithure and Aller, and the International Printing Ink Div. tri-metal plate are being used to a greater extent. The increased printing life and improved quality of printing that is possible with these plates have done much to reduce the competitive advantage enjoyed by letterpress in the field of long runs.

Presensitized paper and metal-foil plates are most important developments for the smallest sizes of offset-lith presses. It is simply a matter of time until presensitized plates will be utilized on the largest sizes of presses. The processes of graining and coating are eliminated through the use of presensitized plates. A more efficient scheduling in platemaking is also made possible.

Renewed Interest in Dry Offset

Letterpress printers have been intensely interested in the idea of a thin sheet relief plate that could be wrapped around the cylinder for rotary printing. The advantages of high-speed and direct printing were tempting. Actually, the Wales press accomplished this many years ago on a press for a small-sheet size. A variety of specialty-printing applications have utilized thin sheet relief plates, with and without the offset transfer. Since the introduction of magnesium for photoengraving in a variety of sheet thicknesses, the interest in dry offset has been rekindled. Magnesium etches rapidly and cleanly and has a greater resistance to wear than zinc or copper. It is also light in weight. As a result, a number of companies are making thin relief plates and complete cylinder sleeves of magnesium. Some of them are used for direct printing on the stock, while others utilize the offset blanket cylinder. Amazing records of plate life are reported.

Screen Process Printing

By screen process printing it is possible to apply a film of ink from 20 to 30 times the thickness of that obtained with letterpress, offset, or gravure. The opacity of such films is of particular value and appeal on some kinds of work. The brilliant Day-Glo colors can be printed by screen process. An extensive use of screen-process printing is that of decorating textiles. The use of the process in combination with other printing methods is increasing. In making counter cards and other point-of-purchase displays, screen-process printing has been utilized to a great extent. The exact reproduction of colors for lipstick, powders, and cosmetic creams has been achieved in screen-process printing through coloring the inks with the same pigments used in the products. Flash tones can be reproduced to a remarkable degree.

The Eastman Kodak Ektagraph Process reproduces anything that can be photographed. This ability to retain detail and print continuous-tone subjects is a major step in the use of screen-process printing. Presses are now available for screen-process printing that will deliver up to 3000 sheets per hour. Drying devices and chambers have been developed that eliminate most of the costly and time-consuming racking. Because of its characteristics, the process can be used on curved or irregular surfaces and on any surface that is capable of receiving ink. Packaging manufacturers are carefully evaluating the uses for screen-process printing.

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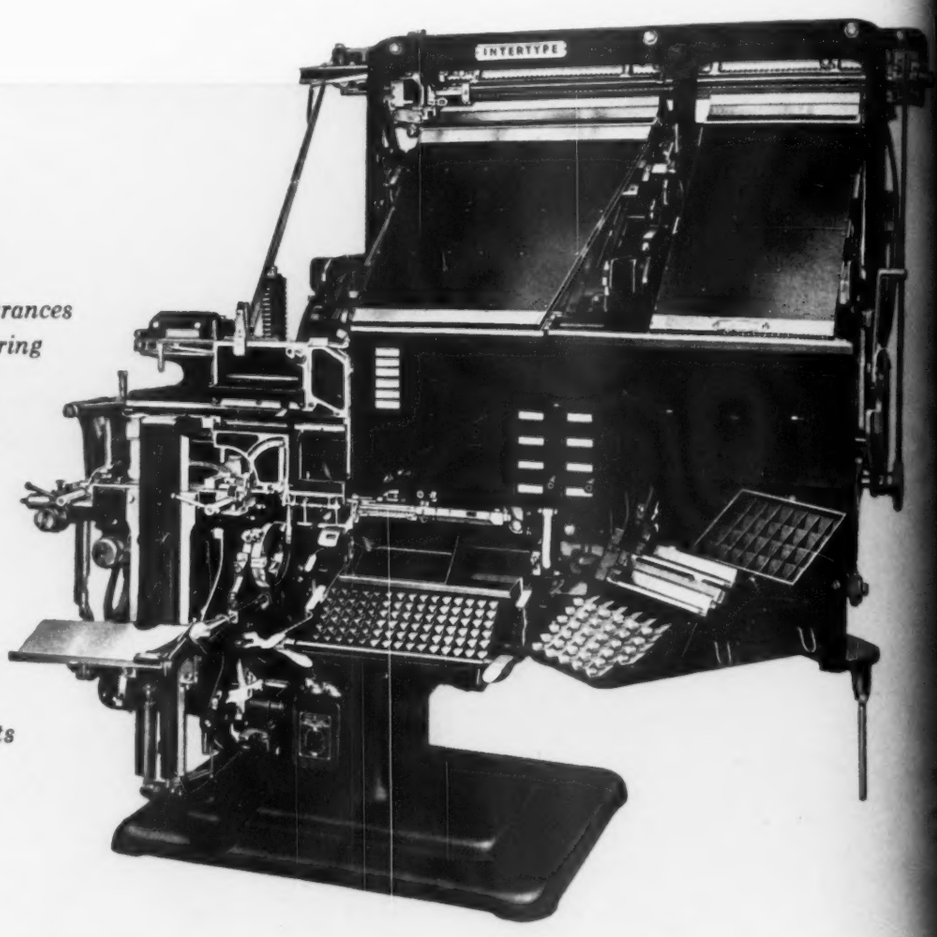

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